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ABSTRACT

Comprehensive rules, guidelines, and examples are provided for use by ERIC indexers and lexicographers in developing and maintaining the "Thesaurus of ERIC Descriptors." Evaluation and decision criteria, research procedures, and inputting details for adding new Descriptors are documented. Instructions for modifying existing Thesaurus terminology are provided, as are procedures for justifying these actions. Details are included on the present-day Vocabulary Development Program that involves all ERIC components and users in the ongoing activities of Thesaurus development. Definitions and functional descriptions are given for the general concepts of "thesaurus" and "descriptors" and for the individual elements included in a standard, structured thesaurus unit, i.e., Main Term, Descriptor Group, Scope Note, UF/USE References, Narrower Terms, Broader Terms, and Related Terms. The purpose and use are described for each of the four sections of the ERIC Thesaurus: Alphabetical Display, Rotated Display, Hierarchical Display, and Descriptor Group Display. Discussions are provided on the use and control of educational terminology, both generally and within the context of the decentralized ERIC Clearinghouse network. Section appendices include a history of the ERIC Thesaurus and some examples of microcomputer templates used for Thesaurus update transactions. (JH)

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Processing Manual

Rules and Guidelines for the Acquisition, Selection, and Technical Processing of Documents and Journal Articles by the Various Components of the ERIC Network

Section VIII:
Vocabulary Development and Maintenance (Part 1)—Descriptors

May 1992

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Educational Resources Information Center (ERIC)
U.S. Department of Education

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SUMMARY OF SIGNIFICANT RULES

1. ERIC's indexing vocabulary provides standard, controlled, subject-concept entries for use in printed indexes and computer-manipulatable files. Entries must represent concepts found in actual documents/articles processed by the system. Control is necessitated by variability found in the language of documents and the language of system users.

2. ERIC's indexing vocabulary consists of Descriptors and Identifiers. Descriptors are meaningful terms or short phrases that, for the most part, represent general classes of things found in the literature. Multiword Descriptors are used whenever single-word Descriptors cannot adequately describe concepts in the literature. Descriptors (singly, or two or more in coordination) will usually adequately represent the ideas and concepts found in a document/article. To identify specific entities (such as pieces of equipment, geographic areas, and other proper nouns and noun phrases), however, Identifiers must be used. Identifiers add a depth to indexing that is not always possible with Descriptors alone. Identifier indexing is intended to supplement Descriptor indexing and is, therefore, to be done in addition to (rather than in lieu of) Descriptor use. Descriptors are defined, interrelated by a system of cross-references, and alphabetically displayed in the *Thesaurus of ERIC Descriptors*. Identifiers are alphabetically displayed in the *Identifier Authority List* (IAL), which serves as a companion volume or supplement to the *Thesaurus*.

3. The *Thesaurus of ERIC Descriptors* is a list of several thousand formally controlled terms. Many terms in the *Thesaurus* refer from "non-preferred" forms to preferred terminology. Descriptors represent the preferred (i.e., indexable) entries. Non-preferred terms (i.e., USE references) are either: (1) synonyms and other variant word forms; or, (2) concepts that are seldom used in the literature covered by ERIC and that can be searched equally well under a broader entry.

4. The *Thesaurus* is displayed in four sequences: Alphabetical Display (primary arrangement); Rotated Display; Hierarchical Display; and Descriptor Group Display. Only the full entries in the Alphabetical Display should be used for direct indexing (or searching). The abbreviated entries in the three secondary displays serve as indexes, in effect, to the Alphabetical Display.

5. Not all Identifiers are proper nouns. Any term or phrase new to the literature will, as a rule, first be "tried out" as an Identifier before it gains Descriptor status. This practice allows a concept to be monitored while information about its usage and/or acceptance among various authors is accumulated. Frequency of indexing occurrence is an important consideration in deciding whether to add a new conceptual-type term to the *Thesaurus*.

6. Indexers have the responsibility of recommending changes to the *Thesaurus* when they find subject concepts in the literature that cannot be expressed or indexed adequately with the existing terminology. Each Clearinghouse must assume a proportional share of vocabulary activities, if a balance across subject areas represented in the vocabulary is to be maintained. As a general "rule of thumb," concepts should be considered candidate Descriptors after 5 usages as Identifiers, and should be included somewhere in the structured *Thesaurus* vocabulary (either as preferred or as non-preferred terms) after approximately 10 usages. Excluded from this rule are, of course, those Identifiers representing proper nouns that cannot qualify for Descriptor status.

7. The Vocabulary Development Form, whether the original pre-printed paper form or a microcomputer-prepared

substitute template, is the input form to be used for all *Thesaurus* transactions, whether adding a term, deleting a term, or modifying an existing term's display. The choice of paper form or computer template is left to the preparer's discretion. The form permits entry or change of all cross-references, including Used For (non-preferred) terms (UF), Narrower Terms (NT), Broader Terms (BT), and Related Terms (RT). It also accommodates input or revisions of Scope Notes and Group Codes. Full justification must be provided on the Vocabulary Development Form for each *Thesaurus* transaction. Authorities must always be cited for new Descriptors, or for redefined or merged existing Descriptors. A minimum of three authorities must be cited for each definitional Scope Note prepared. Care should be taken to avoid parochial points of view. Compromise may be necessary when the terminology needs of separate areas of specialization are in conflict.

8. Assignment of a Group Code refers to the placement of a particular Descriptor in one, and only one, of 41 Descriptor Groups (broad subject categories that provide a *Thesaurus* overview). Scope Notes are brief statements of intended usage, for the purpose of either restriction or explanation; they should not be construed as formal definitions, but as indicators of how terms are (or should be) used in indexing. Instructional notations frequently are part of Scope Notes. These notations direct the *Thesaurus* user to other terms, indicate proper coordination, provide historical notes on changes in usage or cross-reference structure, or otherwise guide and explain preferred usage for both indexing and searching. Because of the inherent "softness" or imprecision of educational terminology, ERIC carries Scope Notes on all Descriptors whose meanings or intended usages are not self-evident.

9. A significant tenet of the ERIC vocabulary development process is the practice of keeping the authority files and the index (postings) files synchronous, i.e.,

   - As a new term is added to the authority files, a special effort is made to locate uses of the term and its variants in the database and to update its postings accordingly.

   - When an obsolete or ambiguous term is removed from the authority files, every effort is made to also delete the term from the postings files.

   - Some changes require manual reindexing (i.e., individual examination and reindexing of original records). Ambiguous terms whose prior usages cannot be conveniently re-examined, may be made invalid.

10. *Thesaurus* cross-references are subject to the following basic rules:

    - The NT-BT relationship is one of class membership. An NT must be entirely a member of the class defined by its BT. Called hierarchical, the NT-BT relationship provides the capability for fine-tuning indexing and searching processes to the most appropriate (i.e., specific) level of subject matter.

    - Close conceptual relationships among Descriptors not in the same hierarchy are displayed via the RT cross-reference.

    - All cross-references are reciprocal, i.e., for every entry, a corresponding complementary entry must appear elsewhere. That is, for every UF entry, there is a USE reference; for every NT, there is a BT; for every BT, there is an NT; for every RT, there is another RT. It is not necessary for the preparer of a Vocabulary Development Form to generate cross-reference reciprocals, as this is done automatically by the *Thesaurus* software.

11. The principal mechanics of Descriptor construction are as follows:

    - Abbreviations and acronyms should generally be avoided as Descriptors; they may be treated as non-indexable USE references.

- Maximum length of Descriptors and USE references is 50 characters, including blanks (i.e., spaces between words).
- Noun forms are preferred to verb forms (e.g., PUBLICITY, not PUBLICIZE).
- The plural form is used for "count nouns" (e.g., APTITUDE TESTS), about which one may ask "how many?"
- The singular form is used for "mass nouns" (e.g., AUDIENCE PARTICIPATION), about which one may ask "how much?"
- Descriptors and USE references judged to be homographs must have parenthetical qualifiers (e.g., CASE (GRAMMAR)).
- Sex neutral Descriptors are preferred when a concept is intended to refer to both sexes (e.g., SEAFARERS, not SEAMEN). Sexist terminology that commonly appears in the literature may be entered as USE references.
- Descriptors may consist of alphabetic characters, Arabic numerals, left and right parentheses, and blanks. Other characters are not acceptable.
- Inverted entries (e.g., PLANNING (FACILITY)) should be avoided. The Rotated (i.e., permuted) Display obviates the need for inverted entries.

12. The Vocabulary Development Program provides a system-wide participatory mechanism for coordinating and implementing changes to the ERIC *Thesaurus*. Through the Vocabulary Review Group, ERIC Clearinghouses and selected users are given the opportunity to review all proposed changes and additions prior to final review/implementation by the ERIC Facility.

VIII. VOCABULARY DEVELOPMENT AND MAINTENANCE (PART 1) -- DESCRIPTORS

A. Introduction

A vocabulary for information retrieval provides standard, controlled, subject-concept entries for use in printed indexes and computer manipulatable files. Without vocabulary control, concepts become scattered under many variant entry forms, with a consequent loss in system utility.

The *Thesaurus of ERIC Descriptors* is the principal indexing vocabulary used in the ERIC system and is the basis for most of the subject entries in the ERIC database. The *Thesaurus* is a list of several thousand cross-referenced, single-word and multiword concepts representing the subjects found in the database. Many terms in the *Thesaurus* refer from "non-preferred" forms to preferred terminology. Preferred entries in the *Thesaurus* are labeled "Descriptors." Non-preferred terms are either: (1) synonyms and other variant word forms, or (2) concepts that are seldom used in the literature covered by ERIC and that can be searched equally well under a broader entry.

Subject entries in ERIC's indexes and computer files that are not Descriptors are based on a companion volume to the *Thesaurus*, the *Identifier Authority List* (IAL). Identifiers are usually names of specific entities (i.e., proper names) and serve as indexing adjuncts to Descriptors; they may also represent subjects that have only recently been introduced to the ERIC database and, as yet, have not been accepted as *Thesaurus* terms.

The field of education covers most areas of knowledge. The list of conceivable subjects covered by writers in the field, and the variety of ways those writers use to express the same subject, would be troublesomely long and overlapping without some term-use restrictions. The *Thesaurus* and IAL specify such restrictions for ERIC.

Section VIII of the *ERIC Processing Manual* covers these two publications and the development and maintenance of their terminology, in separate discussions: Part 1 -- Descriptors; Part 2 -- Identifiers.

1. Thesaurus -- Definition and Function

The word "thesaurus" comes from the Greek word for treasure or treasury. Roget's famous thesaurus is a treasury of sorts. It gives a writer a choice of many alternative words with subtle shadings of meaning to express single concepts. On the other hand, a thesaurus developed for information retrieval purposes might be looked at more as a treasure map, leading a user to a treasury of stored information. A preferred term is selected among several possible terms, and users are directed, by means of references from alternative forms, to employ this one term.

An information retrieval thesaurus is, therefore, a term-association list structured to enable indexers and subject analysts to describe the subject content of a document to a desired level of specificity at input, and to permit searchers to describe in precise terms the information required at output. A thesaurus serves as an authority list of the filing labels that permit information to be stored by one person and retrieved by another. It is a device to bring into coincidence the language of the documents and the language of indexers and inquirers.

The thesaurus concept has been widely adopted for vocabulary control in modern post-coordinate information systems. It is similar in structure and organization to the conventional list of "subject headings." It lists Descriptors alphabetically, endeavors to control synonyms and homographs, and displays generic-specific and other relationships between terms.

A thesaurus of Descriptors, interrelated by cross-references, provides the basic rules of communication for an information system. As an information system grows, its thesaurus can be systematically built and refined to the point where it represents, in a sense, the vocabulary of the subject field involved. A functional thesaurus must be logical and accurate and have an internal integrity in relation to the guidelines upon which it has been built. The ultimate success or failure of a thesaurus depends, however, on the extent of its usefulness as a communication tool in an information system.

2. Descriptors -- Definition and Function

Descriptors are meaningful terms or short phrases that are used to characterize a document and to provide index entries to it. Descriptors, for the most part, represent general classes of things discussed in the literature. Many will be found in the general authoritative dictionaries, while the remainder can usually be located in one or more specialized dictionaries. Descriptors are the basic building blocks that, when defined and interrelated by a system of cross-references, comprise an information retrieval thesaurus.

Descriptors perform a dual function: (1) they permit an indexer to describe the subject elements of a document so that it (or a surrogate record) may be stored in a system for future search and retrieval purposes; (2) they permit a searcher to construct a question using terms that are known to have been used in indexing. In both instances, the extreme variability of the language found in documents and the language used by inquirers is reduced by reliance on a standard vocabulary. In this sense, the Descriptors represent the communication link between the operators and users of the system and its content. Descriptors are closely related (but not identical) to both the "subject headings" that one finds in conventional library systems and the "keywords" that one finds in full-text or uncontrolled vocabulary situations.

Descriptors (singly, or two or more in coordination) will usually adequately represent the ideas and concepts found in a document. To identify specific entities (such as pieces of equipment or geographic areas), however, Identifiers must be used. Rules and guidelines for Identifiers are covered by Section VIII (Part 2).

3. Educational Terminology

Many of the problems encountered in the development of the ERIC *Thesaurus* directly reflect problems inherent in the relatively "soft" or imprecise language of education and the social sciences. The subject matter of the physical sciences and engineering, in contrast, lends itself much more readily to close definition and commonly accepted language and word usage.

In most indexing schemes, the basic objective is to break down common language or terminology into its simplest components while still retaining adequate definition. This objective is often reflected in a thesaurus or word list comprised mostly of single-word terms. In the ERIC *Thesaurus*, however, there is an abundance of compound (multiword) terms. This fact can be explained in terms of the educational process itself. This process basically involves students, teachers, and an educational environment. The events occurring during the educational process can often be applicable equally to any of the three components. In an indexing system that relies on the coordinative use of several terms to represent complex topics, it is difficult to distinguish the source of an action and the recipient of an action without separately defining each. For example, if there is a document dealing with "the influence of the teacher on the attitudes of students," it is theoretically possible to index such a document by coordinating the concepts of "influences," "attitudes," "teachers," and "students." In retrieval, however, how are searchers to know whether they are retrieving documents that deal with "student attitudes" or "teacher attitudes," or, for that matter, with "student influences" or "teacher influences"? To avoid confusion, these concepts can be distinguished by indexing the document in question by the multiword terms "student attitudes" and "teacher influence." In an environment as complex as that of the educational process, this type of compounding, binding, or "precoordination" of terms is often unavoidable.

Beyond the considerations of logic and retrievability, however, there is also the question of how people actually think and express themselves in the language of a subject field. In the interest of clarity, unity, meaningfulness, and recognizability, a thesaurus must represent and preserve the natural language of its field. For better or worse, much of the language of education consists of compound terminology.

The ERIC *Thesaurus* is widely recognized in the United States as the most current, definitive vocabulary tool in the domestic education field. It is also recognized as an international authority. For example, its terms and Scope Notes (i.e., definitions) are used in such references as the *UNESCO:IBE Education Thesaurus* and the *International Dictionary of Education*. The ERIC vocabulary is seen throughout the world in a variety of indexing tools, e.g., the *Japanese-English Educational-Use Keyword Equivalents* published by the Center for Educational Technology, Aichi University of Education, Japan. The combined format, structure, and terminology of the ERIC *Thesaurus* repeatedly has served as a model for education thesauri of other nations, particularly the English-speaking countries. Recent new national thesauri based on the ERIC model include the *Australian Thesaurus of Education Descriptors* (1984), the *British Education Thesaurus* (1988), and the *Canadian Education Thesaurus* (1991, in English and French).

B. Lexicography as Practiced in the ERIC System

1. General

ERIC is a decentralized network, and the development and maintenance of the ERIC *Thesaurus* is a decentralized operation. The real "architects" of the *Thesaurus* are the Clearinghouse indexers engaged in the day-to-day processing of documents for input. Indexers have the responsibility of recommending changes to the *Thesaurus* when they find subject concepts in the literature that cannot be expressed or indexed adequately with the existing terminology.

ERIC indexers, like the network they support, are decentralized. As Clearinghouse staff members, their indexing is primarily confined to documents in the subject specialty area covered by their particular Clearinghouse, and represents the terminology of that specialty area and the viewpoints of its practitioners and users. Part of the strength of the ERIC *Thesaurus* is its reflection of the specialist's point of view. (Of course, each Clearinghouse must assume a proportional share of vocabulary activities if a balance across subject areas is to be maintained.)

The subject specialist's interpretation of terminology, however, must frequently be moderated. Education encompasses wide-ranging subject fields, and ERIC is responsible to a highly diversified user community. Frequently, one Clearinghouse's interpretation of subject matter will not coincide with that of another. ERIC avoids the trap of parochial points of view by providing centralized lexicographic analysis and control, an ongoing function of the ERIC Processing and Reference Facility.

2. Principal Lexicographic Functions

All ERIC vocabulary recommendations (whether new terms or modifications, *Thesaurus*-related or Identifier-related) are reviewed by the Facility lexicographic staff. Terms, definitions, and cross-reference structures are analyzed and evaluated to make sure they:

- Maintain Consistency
- Avoid Proliferation
- Clarify Ambiguities
- Conform to the Vocabulary Coordination Procedures Set Forth in the *ERIC Processing Manual*

Each of these functions is important enough to be explained with some examples.

a. Maintain Consistency

Clearinghouses working independently can generate inconsistent terminology. For example, the concepts "academic" and "scholastic," although varying slightly in meaning can be considered synonymous for purposes of retrieval. The use of both concepts in the *Thesaurus* would create a problem of inconsistency.

Example: Clearinghouse A submits
SCHOLASTIC FAILURE
UF ACADEMIC FAILURE

Clearinghouse B submits
ACADEMIC APTITUDE
UF SCHOLASTIC POTENTIAL

Clearinghouse C submits
ACADEMIC ACHIEVEMENT
UF SCHOLASTIC ACHIEVEMENT

Clearinghouse D submits
SCHOLASTIC ABILITY
UF ACADEMIC ABILITY

(UF="Used For..."---**See item D.5** of this section.)

Problem: Even though the compound terms involved are not exact synonyms, if they all went into the *Thesaurus* as submitted, consistency would obviously be lacking and retrieval would be more difficult. Users would be puzzled by what they would assume to be a distinction made by the system between "academic" and "scholastic." This problem cannot be solved at the level of the Clearinghouses, as one Clearinghouse is often not aware of another's term preferences and choices.

Solution: Central lexicography receives the recommendations from the A, B, C, and D Clearinghouses. Since all the information has been assembled at one point, the problem can be recognized. The four candidate terms are analyzed to see whether they can reasonably coexist in the same system. This analysis may be aided by consulting reference works. It obviously must first be determined whether the two terms "academic" and "scholastic" are synonyms and, if so, which is preferred. In this particular case, the conclusion was that the terms are synonymous for purposes of retrieval, and that "academic" is more widely used than "scholastic." Most often, such a decision establishes a precedent that will then apply to later decisions and that in the observance will lend consistency to the system's vocabulary.

b. Avoid Proliferation

Decentralized input can also lead to a proliferation of redundant and essentially duplicate concepts, with subsequent loss of retrieval effectiveness. To avoid such situations, synonymous or unnecessary variants must be stored under selected "preferred" terms.

Example: Clearinghouse A submits
BICULTURAL EDUCATION

Clearinghouse B submits
INTERCULTURAL EDUCATION

Clearinghouse C submits
MULTICULTURAL EDUCATION

Clearinghouse D submits
MULTIETHNIC EDUCATION

Problem: Without central control, all of the terms in the example might well enter the *Thesaurus*, leading to four terms where one would do. Searchers conducting inquiries in this topical area would then be burdened unnecessarily with the task of incorporating all four terms into their strategies because any other approach might fail to retrieve essential material.

Solution: Central lexicographic control can solve this problem via research, rational decision-making based on findings, and the recording of this process for use in later problem situations. In this case, MULTICULTURAL EDUCATION was selected as the preferred form and cross-references were made to it from the other three terms.

c. **Clarify Ambiguities**

Specialists in one field may be unaware that their terminology may have different meanings in other fields.

Example: Clearinghouse A submits LEARNING CENTERS

Clearinghouse A's field of specialization covers the education of young children, and the Clearinghouse understands LEARNING CENTERS to be an "open education" term meaning "areas inside classrooms (e.g., a table) in which instructional materials have been gathered for unstructured, self-directed learning." It can be assumed that this is a common term in Clearinghouse A's field and that they see no ambiguity in it. With the "blinders" of the specialist on, Clearinghouse A has unwittingly submitted a homograph.

Problem: LEARNING CENTERS may appear to present no problems to the indexers and searchers in Clearinghouse A's field of specialization. Imagine, however, the many uses and interpretations that could be applied to such a term across other areas of knowledge. The term could be misinterpreted to mean many different kinds of facilities and institutions, including schools, counseling centers, libraries, psychoeducational clinics, job training centers, etc. Before too long, the term might be used in so many different ways that it could no longer be searched specifically for the originally intended "classroom" context. Users, particularly in Clearinghouse A's field, would be faced with many "false drops," and wasted searches might be repeated in one way or another by hundreds of users.

Solution: Potential ambiguity of terminology can be readily detected from the broad, unrestricted point of view of central lexicography. Once the need for Scope Notes is discerned, contact can be made with initiating Clearinghouses to request that definitions be prepared. In this case, a parenthetical qualifier was also needed to assure correct usage. The resultant entry in the *Thesaurus*, LEARNING CENTERS (CLASSROOM) with its restrictive Scope Note, is unambiguous.

d. **Conform to the Vocabulary Coordination Procedures Set Forth in the *ERIC Processing Manual***

With the assistance of a number of lexicographic consultants and terminological specialists over the years, a set of formal vocabulary rules has evolved for ERIC Descriptors and Identifiers. All rules for Descriptors are set forth in this section of the ERIC Processing Manual, Section VIII (Part 1), and all rules for Identifiers are documented in Section VIII (Part 2).

These rules cover the policies and the mechanics of both vocabulary generation and selection. For instance, an important policy is that "Descriptors should represent important concepts found in the literature of the database rather than concepts derived independently." Matters of Descriptor/Identifier mechanics covered are, for example: noun forms preferred over verb forms, inverted entries avoided, no punctuation other than parentheses, use of parentheses limited to qualifying homographs or indicating "life spans" of formerly indexable concepts.

The rules are designed to impose order and internal integrity on the ERIC vocabulary and are to be observed both by the personnel submitting candidate terminology and by the central lexicographic staff evaluating the submissions.

Not all situations can be covered, however, in any single set of rules. (The *ERIC Processing Manual* is analogous in this regard to a constitution rather than to a set of statutes.) Vocabulary and other processing rules must leave the way open for compromise action when requirements are in conflict. ERIC Lexicographers and Clearinghouse personnel work together in interpreting the rules in order to achieve the overall objectives of the system.

3. Vocabulary Development Program

The Vocabulary Development Program is a procedure for coordinating and implementing changes to the ERIC *Thesaurus*. The flow of the program is illustrated in **Figure VIII-1-1**.

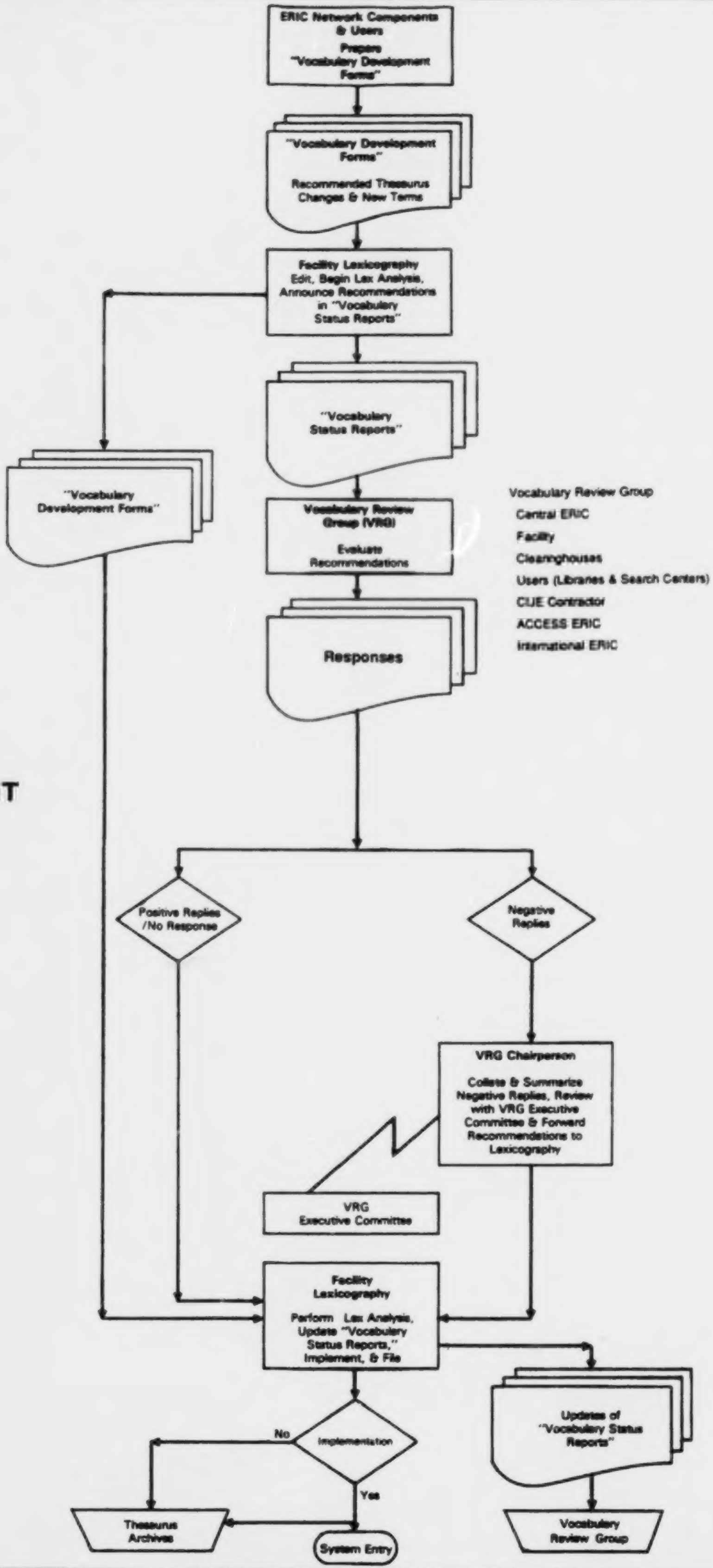
The Vocabulary Development Program provides the means for each component of the decentralized ERIC system to participate in thesaurus development and maintenance. Initiated in December 1980, the program grew out of ERIC's experience with the 1977-80 Vocabulary Improvement Project (VIP) and the *Play Thesaurus* (see **Attachment #1** of this section, *"History of the Thesaurus..."*). As in the past, the emphasis continues to be on total network involvement in *Thesaurus* development, with a streamlined approach.

a. One basic procedure and one form are used for the submission and review of all proposed changes to the ERIC *Thesaurus*.

The characteristics and uses of the "Vocabulary Development Form" are covered in item "E" of this section.

b. ERIC Clearinghouses and selected users are given the opportunity to review all proposed changes and additions prior to final review/implementation by the Facility lexicographic staff.

c. A Vocabulary Review Group (VRG) of 29 members serves as the review/advisory group for the Vocabulary Development Program. In addition to reviewing specific recommendations for changes and new terms, the VRG is responsible for evaluating vocabulary-related policy matters and for recommending viable alternatives for long-range *Thesaurus* development. The VRG membership includes:


ERIC Network Components & Users Prepare "Vocabulary Development Forms"
"Vocabulary Development Forms" Recommended Thesaurus Changes & New Terms
Facility Lexicography Edit, Begin Lex Analysis, Announce Recommendations in "Vocabulary Status Reports"
"Vocabulary Development Forms"
"Vocabulary Status Reports"
Vocabulary Review Group (VRG) Evaluate Recommendations
Vocabulary Review Group
Central ERIC
Facility
Clearinghouses
Users (Libraries & Search Centers)
CIJE Contractor
ACCESS ERIC
International ERIC
Responses
Positive Replies /No Response
Negative Replies
VRG Chairperson Collate & Summarize Negative Replies, Review with VRG Executive Committee & Forward Recommendations to Lexicography
VRG Executive Committee
Facility Lexicography Perform Lex Analysis, Update "Vocabulary Status Reports," Implement, & File
Updates of "Vocabulary Status Reports"
Implementation
No
Yes
Thesaurus Archives
System Entry
Vocabulary Review Group

ERIC
VOCABULARY DEVELOPMENT
PROGRAM—FLOWCHART

FIGURE VIII-1-1

- 16 - ERIC Clearinghouse Coordinators
- 1 - Facility Lexicographer (also, the Facility Identifier Coordinator is an "ex officio" member)
- 1 - ACCESS ERIC Representative
- 1 - CIJE/*Thesaurus* Publisher
- 1 - Central ERIC Monitor
- 5 - User Representatives:
  A university librarian; a school librarian (manual search facility); staff member of an online search facility; staff member of an information/documentation center related to education; and an educational practitioner.
- 3 - "International ERIC" Representatives:
  Representatives of the *Australian Education Index*, *British Education Index*, and *Canadian Education Index*. International ERIC (informally, InterEd) is a long-term initiative for international cooperation among the major English-language education-related databases.

d. VRG members are appointed by Central ERIC. Members serve as long as they want, at the discretion of Central ERIC. Clearinghouse directors are responsible for nominating the Clearinghouse representatives.

e. The VRG Executive Committee is composed of the VRG Chair, the Facility Lexicographer, and the Central ERIC Monitor. The purpose of this committee is to resolve any problems/conflicts identified by the larger review group.

f. The VRG is chaired by a Clearinghouse Coordinator appointed by Central ERIC. The Chair of the VRG assumes the following responsibilities:

- Coordinate activities of the VRG and act as liaison among Facility, Clearinghouses, users, and Central ERIC.
- Receive from the VRG members all negative comments pertaining to proposed *Thesaurus* changes.
- Collate and summarize those negative responses.
- Arrange coordination sessions with the VRG Executive Committee as needed to assess negative responses, calling for the assistance of other Clearinghouse Coordinators on an "ad hoc" basis.
- Prepare final recommendations for Facility Lexicographer.

g. Facility Lexicography prepares a 1- to 6-month *Vocabulary Status Report* (at least two per year) summarizing all recommended *Thesaurus* changes received from Clearinghouses and external users during the respective time period. Brief annotations, e.g., Scope Notes for new terms, accompany each change listed on the status report form (see example in **Figure VIII-1-2**). The status report serves as the mechanism for alerting the VRG to proposed changes and for soliciting the membership's comments and recommendations. Reviewers may comment directly on the form and/or attach more extensive comments. Return of copies from the VRG is scheduled within one or two months of a particular report's distribution. Two copies are returned, one to the Facility for the ERIC lexicographic archives and the other to the VRG Chair for final review and summation of voting. The final disposition of each recommended change is included in an updated status report that is redistributed to the VRG (see example in **Figure VIII-1-3**). Additional VRG review may occasionally be necessary if there are contested dispositions.

h. The review cycle for the Vocabulary Development Program, from receipt to disposition, varies from 2 to 9 months. Turnaround time usually depends on the volume of *Thesaurus* changes received, which affects in turn how often Vocabulary Status Reports are issued.

i. The membership of the VRG is announced periodically in the *Interchange* newsletter (published by ACCESS ERIC) in order to encourage ERIC users interested in accomplishing additions of new *Thesaurus* terminology, or those encountering other situations in subject searching, to interact with the VRG.

j. Facility Lexicography is responsible for implementing all approved recommendations to the *Thesaurus* file, and making any necessary postings updates to the index (inverted) files to ensure their compatibility with the updated *Thesaurus*. (See "Synchronization of Lexicography and Indexing," item B.5 of this section.) Additionally, the lexicographic staff prepares a "final report" of each 1- to 6-month *Thesaurus* update entitled *Thesaurus Changes and Statistical Data* (not shown in the flow of the Vocabulary Development Program, **Figure VIII-1-1**). This report contains three standard attachments, as follows:

- Attachment 1 provides a listing of the major *Thesaurus* transactions in the file update. It serves as a supplement to working editions of the *Thesaurus*, and is used by the CIJE/*Thesaurus* Publisher to update the Thesaurus Additions and Changes sections of RIE and CIJE. (Thesaurus Additions and Changes serves as a supplement to users of the commercial, published *Thesaurus*.)

- Attachment 2 gives total *Thesaurus* input and disposition statistics for the current update.

- Attachment 3 gives the cumulative total terms in the *Thesaurus* file as of the current update.

4. Participation by External Users

ERIC encourages direct participation by external users in its vocabulary development activities. Users have been involved in the development of the ERIC *Thesaurus* since its beginning, i.e., reviewing terminology and serving in advisory roles when major changes in *Thesaurus* coverage and format were being considered.

Users are kept abreast of current vocabulary activities through Clearinghouse

VOCABULARY STATUS REPORT -- EVALUATION PHASE

ERIC VOCABULARY STATUS REPORT Date: Jul/Aug84 Page: 11 of 22

ENTRY NUMBER	DESCRIPTOR AND DESCRIPTION OF RECOMMENDED ACTION	New Term	Change	Purge	Originator	Date Received	VRG*		Date of Disposition		REVIEWER'S REMARKS (Please detail any objections; use back of form, if necessary.)	ELAPSED TIME
							Agree	Do Not Agree	Imple-mented **	Not Imple-mented		
1657	AIR TRAFFIC CONTROLLERS SN: Personnel who give instructions and information by radio to aircraft pilots to prevent collisions and minimize delays in take-off and landing for air traffic at or near airports BT: Personnel	X			CE	8/84					33 relevant hits, incl. Iden postings of "Air Traffic Control" & "Air Traffic Controllers." (CE)	
1658	FREEHAND DRAWING Add UF: Drawing		X		CE	8/84					FREEHAND DRAWING can be found through the Rotated Display, but in the Alphabetical Display alone, it does not leap readily to mind as the preferred term for "drawing." (CE)	
1659	HOME HEALTH AIDES Add SN: Under professional supervision, assist with meals, shopping, household chores, bathing, and other daily living needs of elderly, ill, or disabled persons in the clients' homes		X		CE	7/84						

* Return copies by: September 22, 1984
To: Anita Colby, ERIC/JC
Jim Houston, ERIC Facility (AA)

Reviewer/Organization

** Term may be used for indexing as of this date.

PLEASE VOTE & RETURN THIS PAGE

VOCABULARY STATUS REPORT -- FEEDBACK PHASE

ERIC VOCABULARY STATUS REPORT Date: Oct84 Page: 4 of 23

ENTRY NUMBER	DESCRIPTOR AND DESCRIPTION OF RECOMMENDED ACTION	New Term	Change	Purge	Originator	Date Received	VRG*		Date of Disposition		REVIEWER'S REMARKS (Please detail any objections; use back of form, if necessary.)	ELAPSED TIME
							Agree	Do Not Agree	Imple-mented **	Not Imple-mented		
1657	AIR TRAFFIC CONTROL SN: Scheduling and monitoring the flow of air traffic at airports, during approaches, and en route BT: Traffic Control	X			CE	8/84	16	4	10/84		33 relevant hits, incl. Iden postings of "Air Traffic Control" & "Air Traffic Controllers." (CE) - - - - - - - - - - - - - - - Changed from AIR TRAFFIC CONTROLLERS. Since the VIP, ERIC has favored "occupation" terms over "personnel" terms, especially in areas on the periphery of education. Change is in line with other social science thesauri such as Psyc Abs & Mgmt Contents. SN modified per remorks of CG/PS/SP/TM/UD. (VRG)	2 mos
1658	FREEHAND DRAWING Add UF: Drawing (Freehand) COMPUTER GRAPHICS Add UF: Drawing (Computerized) DRAFTING Add UF: Drawing (Precision Draft)		X		CE	8/84	18	1	10/84		FREEHAND DRAWING can be found through the Rotated Display, but in the Alphabetical Display alone, it does not leap readily to mind as the preferred term for "drawing." (CE) - - - - - - - - - - - - - - - Modified per AA. "Drawing" should not be restricted to one access point. (VRG)	2 mos
1659	HOME HEALTH AIDES Add SN: Workers who, under professional supervision, provide routine health/personal care and housekeeping services in homes of disabled, ill, or elderly clients		X		CE	7/84	17	3	10/84		SN simplified per CG/SP. Subject added per JC/PS/TM/UD/Lake/Wise. (VRG)	3 mos

* Return copies by: [redacted]
To: Anita Colby, ERIC/JC
Jim Houston, ERIC Facility (AA)

Reviewer/Organization

** Term may be used for indexing as of this date.

FEEDBACK PAGE---NO RETURN

newsletters and the *Interchange* newsletter. They frequently interact directly with vocabulary coordinators at the Clearinghouses. Another common occurrence is for users to submit vocabulary recommendations directly to the Facility Lexicographer and to interact with the lexicographic staff over the phone.

Volunteers from the user community also serve as members of the ERIC Vocabulary Review Group, as described in the preceding section B.3.

5. Synchronization of Lexicography and Indexing

A significant philosophical tenet of the ERIC vocabulary development process is the practice of keeping the authority files and the index (postings) files synchronous. (See the "Vocabulary Development Form" and its emphasis on postings, **Figures VIII-1-7** and **VIII-1-8** in item "E.") As a new term is added to the authority files, a special effort is taken to locate uses of the term and its variants in the database and to update its postings accordingly. When an obsolete or ambiguous term is removed from the authority files, every effort is made to delete also the term from the postings files. Some such changes require manual reindexing (i.e., individual examination and reindexing of original records), but most can be accomplished using ERIC's "Transfer-and-Delete" software (in which one transaction suffices to locate all records containing one to several terms, to delete the term or terms, and to replace them with one or more terms, while retaining the original major or minor status of the terms intact).

6. Lexicographic Authorities

The ERIC Facility maintains an extensive collection of lexicographic tools (dictionaries, glossaries, thesauri, encyclopedias, etc.) used to verify, structure, and define terms used in the ERIC vocabulary. Over 300 key references are included in the collection. A list of the principal thesauri and subject-heading lists in this collection appears in item C.1.e.(3) of this section.

Citations of the documents in the lexicographic collection are compiled into a "*Thesaurus* Bibliography." This bibliography is maintained by, and may be obtained from, the Facility. It has appeared in past editions of the published *Thesaurus* and may be made available in future editions, if warranted by user interest.

Additional reference works in Washington metropolitan area libraries are consulted when complex lexicographic problems arise that cannot be researched adequately using the reference materials at hand.

7. Structure of the *Thesaurus of ERIC Descriptors*

To assist the user (indexer or searcher) of the *Thesaurus*, the terminology is arranged in four different sequences, each providing a different approach. The principal or primary arrangement is an alphabetical display of Descriptors (includes a complete, individual display of each Descriptor), with the other three displays acting, in effect, as indexes to the primary display:

PRIMARY ARRANGEMENT	SECONDARY ARRANGEMENTS
Alphabetical Display	Rotated Display Hierarchical Display Descriptor Group Display

27

SPECIAL NOTE: None of the three secondary arrangements show Descriptors in their complete context. Full meanings and intended usages for Descriptors cannot be determined without consulting the Alphabetical Display, the only one of the four arrangements containing Scope Notes and complete cross-reference structures. NEVER use any one of the three secondary arrangements for direct indexing or searching! ALWAYS check the Alphabetical Display before using any Descriptor! Indexers must remember that the integrity of the Thesaurus, and the equivalence between a particular Descriptor and its postings, are fundamental to effective retrieval. NEVER use a Descriptor in a sense that violates its intended meaning! ALWAYS check RIE and CIJE to see how a Descriptor has been used, if (for whatever reason) the intended meaning of a term cannot be determined by consulting the Alphabetical Display. Let the central lexicographic staff at the Facility know when Descriptor misuse is discovered; the Lexicographers will coordinate whatever action is necessary to correct the problem.

a. Alphabetical Display

This is the only *Thesaurus* display that should be used for direct indexing and searching. All valid Descriptors (main terms), invalid Descriptors ("dead" terms), and USE references appear in this display interfiled alphabetically word-by-word at one location. Descriptors are "preferred" (indexable) *Thesaurus* terms, while invalid Descriptors and USE references are "non-preferred." Each type of term is displayed with its complete record, as follows:

- Descriptors (main terms)
  Scope Note (SN), Group Code, Add Date, Postings Count, Used For (UF) references, Narrower Terms (NT), Broader Terms (BT), and Related Terms (RT).

- Invalid Descriptors ("dead" terms)
  Scope Note (SN), Group Code, Add Date, and Postings Count.

- USE References
  (reciprocals of UF references; therefore, no subfields are carried in these records).

Other items of this section fully describe these displays. Please refer to the following:

Descriptor Format	item D.2.d
Invalid "Dead" Descriptors	item D.2.e.(2)
USE References	item D.5

b. Secondary Arrangements

The following three *Thesaurus* display "arrangements" are secondary to the main Alphabetical Display. Each serves as a useful tool in achieving full *Thesaurus* utilization. Their purpose is to provide access to the Alphabetical Display; they should not be used for indexing or searching without consulting the Alphabetical Display.

(1) Rotated Display

The Rotated Display is a permuted alphabetical index of all words that form *Thesaurus* terms. Words in all Descriptors (main terms), invalid

Descriptors ("dead" terms), and USE references are included. Since each separate word is considered as a filing unit, a term appears in as many locations in this display as it contains separate words, i.e., single-word terms file in one location, two-word terms file in two locations, and so on. Subfiling under any one file point is performed first on the basis of the words to the right of the file point and second, on the basis of the words to the left of the file point. The word order within the term itself is not altered.

```
                      Example:  PRIVATE SCHOOL AID

STUDENT FINANCIAL AID OFFICERS
   PRIVATE SCHOOL AID
            LEGAL AID PROJECTS (1966 1980)  Use LEGAL AID
       PROVINCIAL AID  Use STATE AID
           SCHOOL AID  Use EDUCATIONAL FINANCE
            STATE AID

                  PRIVATE JUNIOR COLLEGES  Use PRIVATE COLLEGES and
                                           TWO YEAR COLLEGES
                  PRIVATE SCHOOL AID
                  PRIVATE SCHOOLS
                  PRIVATE SECTOR
                  PRIVATE UNIVERSITIES  Use PRIVATE COLLEGES
                  PRIVATIZATION

                  SCHOOL AGE DAY CARE
                  SCHOOL AID  Use EDUCATIONAL FINANCE
        NONPUBLIC SCHOOL AID (1972 1980)  Use PRIVATE SCHOOL AID
        PAROCHIAL SCHOOL AID (1972 1980)  Use PAROCHIAL SCHOOLS and
                                          PRIVATE SCHOOL AID
          PRIVATE SCHOOL AID
                  SCHOOL AIDES
```

USE references are clearly distinguished from Descriptors in this display. Invalid Descriptors can be identified by accompanying "life span" notations, e.g., (1966 1980), and by having no USE reference.

The Rotated Display is useful in determining all usages of a particular word in the *Thesaurus*, without respect to its position in a multiword term. The Display tends to group related terms where they may often be separated in the main Alphabetical Display, thus aiding indexers in finding more precise terminology, search analysts in translating their inquiries into the language of the system, and subject analysts in structuring new terms.

(2) Hierarchical Display

The Hierarchical Display depicts families of Descriptors (generic trees) related by the taxonomic concept of "class membership." Complete, two-way visibility is provided for all broader-narrower relationships of every *Thesaurus* Descriptor. Each generic tree is carried to its farthest extreme in both directions. The display files the Descriptors in letter-by-letter order, ignoring spaces between words (this differs from the word-by-word filing used for the *Thesaurus*' main Alphabetical Display).

Two sample generic trees are shown below, one for the term DRAFTING and the other for the term LIBRARY SERVICES. Broader terms (i.e., BTs) are identified by preceding colons and appear above each file point (main entry). Narrower terms (i.e., NTs) are identified by preceding periods and are listed below each file point. Multiple colons or periods indicate successively broader or narrower levels of terms.

```
BT                 ::::LIBERAL ARTS
▲                  :::HUMANITIES
│                  ::FINE ARTS
│                  :VISUAL ARTS
├─FILE POINT────►DRAFTING
│                  .ARCHITECTURAL DRAFTING
▼                  .ENGINEERING DRAWING
NT                 .TECHNICAL ILLUSTRATION

BT                 ::SERVICES
▲                  :INFORMATION SERVICES
├─FILE POINT────►LIBRARY SERVICES
│                  .LIBRARY CIRCULATION
│                  ..INTERLIBRARY LOANS
│                  .LIBRARY EXTENSION
│                  .LIBRARY TECHNICAL PROCESSES
▼                  ..LIBRARY ACQUISITION
NT                 ...LIBRARY MATERIAL SELECTION
```

Descriptors having neither BTs nor NTs appear in the display as isolates. Included among these isolates are the "invalid" Descriptors, identified by accompanying "life span" notations, e.g., "(1966 1974)," "(1969 1980)." Invalid Descriptors are the only terms appearing in this display that are not currently used in indexing.

The Hierarchical Display serves as a valuable tool for indexers in their attempts to index documents to the most appropriate level of specificity, and for searchers in their attempts at developing comprehensive search strategies.

See item D.6.e.(2), under "Hierarchical Visibility," for a discussion on the importance of using the Hierarchical Display.

(3) Descriptor Group Display

The Descriptor Group Display places each term in the *Thesaurus*, excluding UFs, into one (and only one) of 41 broad subject categories. Together, these categories or "Descriptor Groups" provide a "table of contents" to the *Thesaurus* and an overview of ERIC's subject coverage. Descriptors are alphabetized word-by-word under each group. The display is provided for browsing and for narrowing down the number of terms to be looked at in given situations. It is meant to provide suggestions and be of general assistance to users, whether indexers, searchers, or lexicographers; but it is not a formal classification scheme and should not be construed as such.

Each Descriptor Group is defined by a Scope Note. The set of 41 Scope Notes is necessary for comparing coverage among the groups and always accompanies (precedes) any distribution of the display. Also, each group is represented in the system by a 3-digit "Group Code."

See item D.3 for the complete Descriptor Group structure, a listing of the Group Codes, further information on the groups' functional applications, and details on how individual Descriptors are assigned to the groups.

c. Frequency of Distribution

Working Copies of the Alphabetical, Rotated, and Hierarchical Displays are produced at least annually for internal use by ERIC staff. Working Copies of the Descriptor Group Display, while not regularly scheduled, are produced as needed. The published or commercial *Thesaurus* includes all four displays and is updated and published at least quadrennially.

C. Descriptor Development

1. Evaluation and Decision Criteria for a New Descriptor

During the course of indexing, indexers become aware of concepts that are not adequately represented in the existing *Thesaurus*. Concepts that are found in documents and journal articles being added to RIE or CIJE, but that are not covered by the *Thesaurus*, are considered "candidate Descriptors."

The following guidelines are provided to aid indexers in determining whether a candidate Descriptor should be added to the *Thesaurus*.

a. Does It Actually Appear in Documents Being Indexed?

★*Important Principle: To be considered for the ERIC Thesaurus, a concept must actually appear in the literature being indexed. It cannot be added, for example, merely to complete the links in a hierarchical chain.*

For instance, the *Thesaurus* contains COLLEGE ENTRANCE EXAMINATIONS as a Narrower Term of TESTS, skipping the potential intermediate term ENTRANCE EXAMINATIONS; nevertheless, ENTRANCE EXAMINATIONS cannot be added as long as all usages of the term either pertain to college-level examinations or overlap considerably with other closely related conceptual areas (e.g., OCCUPATIONAL TESTS) already suitably covered in the *Thesaurus*.

The reason for this rule or constraint is that the existence of unused Descriptors in the *Thesaurus* would misrepresent the content of the database, would result in searches yielding zero hits, and would lead to dissatisfaction among users.

b. Does It Qualify for Descriptor Status or Is It an Identifier?

Highly specific entities, including most proper nouns/noun phrases, are sometimes the subjects of documents. These include:

Geographic Locations	Persons
Legislative Titles	Projects
Literary/Artistic Titles	Test Titles
Organization Names	Trade Names

Called "Identifiers," these entities are allowable index terms, and a special field is provided for them. Identifier indexing is intended to supplement Descriptor indexing, and Identifier use must always be in addition to (rather than in lieu of) Descriptor use.

The almost infinite number of specific entities generally makes them undesirable for inclusion in the tightly controlled vocabulary of the *Thesaurus*. Some, because of "staying power" in the literature, have graduated over time to Descriptor status (e.g., AFRICAN CULTURE, AMERICAN INDIANS, BAYESIAN STATISTICS, CHRISTIANITY, FRENCH, MEXICANS, RUSSIAN), but this phenomenon is the exception to the rule. *Thesaurus* precedence is the indexer's best guide in determining whether a proper noun/noun phrase should be considered as a candidate Descriptor. For instance, terms in the eight categories listed above never qualify for Descriptor status. (See Section VIII (Part 2) for a complete discussion of Identifiers.)

Of course, not all entries in the Identifier field are proper nouns. Any concept working its way into the literature of the field must, as a rule, first be "tried out" as an Identifier. This practice allows a concept to be observed while accumulating usage and/or acceptance among various authors. Frequency of indexing occurrence is always an important consideration in deciding whether to add a new conceptual-type term to the *Thesaurus*.

ERIC uses a "Heavily Posted Identifiers" list to highlight candidate Descriptors and encourage their *Thesaurus* consideration. Appearance in this list serves notice to ERIC Clearinghouse vocabulary coordinators that the terms be given some priority or special attention in vocabulary development work by attempting to elevate them to *Thesaurus* status, either as main term Descriptors or as USE references. Fully titled *Heavily Posted Identifiers that Should Be Considered for the ERIC Thesaurus*, this list came on the scene in 1981 with the advent of the printed *Identifier Authority List* (IAL) and has been updated and released subsequent to each IAL edition since that time. The list is prepared as a total alphabetical list and, again, alphabetically by ERIC Clearinghouse. See **Figure VIII-1-4** for a sample page from each. All terms in this example have 30 or more postings. Carry-overs from earlier lists are flagged with stars, some including an additional diamond symbol indicating only light postings recently.

The list by Clearinghouse is provided as a guide to help focus Clearinghouse decision-making on what terms to work on and which, if any, other Clearinghouses might need to be consulted in developing justifications. No restrictions are implied, however. Anyone can work on any term at any time, providing that others in the network are notified via E-mail, etc., in order to avoid duplication of effort. Submitted terms on the list are redlined, with the submitter noted (checked), by the Facility lexicographic staff, thus providing a convenient status report in between completely revised editions of the list. The ✓AA on the list means submitted by the

SEPTEMBER 1991

HEAVILY POSTED IDENTIFIERS THAT SHOULD BE CONSIDERED FOR THE ERIC THESAURUS

Alphabetical List

IDENTIFIER	POSTINGS
Aboriginal People ★★	(157)
Academic Discourse	(72)
Access to Health Care	(41)
Accuracy ★	(94)
Active Learning	(44)
Adaptive Behavior Scales	(34)
Adjunct Questions	(34)
Administrator Behavior	(32)
Adolescent Suicide	(36)
Adoptive Parents	(33)
Adult Child Relationship	(57)
Adult Performance Level ★★ ♦	(75)
Advanced Composition	(39)
Advertisements	(70)
Advertising Effectiveness	(62)
Aesthetic Reading	(43)
Aesthetics	(51)
Affective Domain	(39)
Africans	(36)
Age Bias	(35)
Aggregation (Data)	(43)
Aleut (Tribe) ★ ♦	(35)
Alpha Coefficient	(32)
Alumni Relations	(33)
Ambulatory Health Care	(46)
Analogical Reasoning	(70)
Analogies ★	(97)
Analogy ★★	(81)
Analytical Chemistry	(37)
Anaphora ★	(62)
Angoff Methods	(53)
Apache (Tribe) ★ ♦	(42)
Archivists	(31)
Argumentativeness	(31)
Arthritis	(30)
Asians ★	(62)
Aspect (Verbs)	(39)
Athletic Trainers	(38)
Attitudes toward Disabled	(36)
Audience Research	(42)
Augmentative Communication Systems	(56)
Australians	(30)
Authentic Materials	(55)
Author Reader Relationship	(64)
Author Text Relationship	(65)
Authority ★★	(88)
Automobile Industry	(37)
Avoidance Behavior	(39)
Balance	(34)
Bankruptcy	(34)
Basic Writers	(69)
Beginning Writing	(75)
Behavior Analysis	(42)
Behavior Management	(55)
Bereavement	(52)
Blackfeet (Tribe)	(31)
Blame	(30)
Blooms Taxonomy ★	(209)
Boolean Logic	(40)
Boolean Search Strategy	(43)
Brain Functions	(42)
Brain Research ★★	(96)
Browsing	(38)
Bus Drivers	(41)
Business Law ★ ♦	(40)
Business Role	(35)
Bylaws ★ ♦	(50)
Calendars	(30)
Calibration	(37)
Canadian Studies ★ ♦	(54)
Caregiver Role	(37)
Case Management	(71)
Categorical Data	(39)
Cathode Ray Tubes	(31)
Causal Inferences ★ ♦	(58)
Cause Effect Relationship	(36)
Ceremonies	(39)
Change Analysis	(30)
Character Education	(40)
Chemicals	(32)
Child Behavior	(74)
Child Protection	(31)
Child Protective Services	(31)
Childrens Writing	(163)
Chinese People ★	(97)
Choctaw (Tribe) ★ ♦	(42)
Choice Behavior	(48)
Class Inclusion	(39)
Classical Test Theory	(36)
Clauses	(37)
Client Behavior	(30)
Coaching	(58)
Coalitions	(39)
Coastal Zones	(36)

★ Carry-overs from Sep87 list.
★★ Carry-overs from earlier (1985, 1983, 1981) lists.
♦ Carry-overs with fewer than 15 postings since Sep87.

FIGURE VIII-1-4a

SEPTEMBER 1991 – HEAVILY POSTED IDENTIFIERS
BY CLEARINGHOUSE

Listings are based on:
(1) responsibility for highest postings;
and/or
(2) scope area.

Parenthetical notations following identifiers, e.g., (EA/CE/IR), indicate secondary responsibility.

CE

		Postings
Adult Performance Level ★★ ◆		(75)
Affective Domain (CS/PS)		(39)
Automobile Industry		(37)
Business Law ★ ◆		(40)
Competency Tests (EA/CS/TM)		(40)
Correctional Officers		(35)
Criminal Justice (HE) ★ ◆		(48)
Criminal Justice System (SO/UD)		(38)
Curriculum Management ★ ◆		(46)
Educational Awareness (CS/RC)		(35)
Emergency Medical Services ★ ◆		(48)
Employee Participation		(34)
Employer Surveys (JC) ★★ ◆		(55)
Environmental Health (SE) ★★ ◆		(62)
Exoffenders (CG) ★ ◆		(45)
Fact Sheets (SO/TM/IR)		(92)
Federal Agencies (IR) ★ ◆		(52)
Food Production (SE) ★ ◆		(42)
Formal Education (PS/RC/SO)		(30)
Gardening		(38)
Goal Setting (CG/EA/RC) ★★		(155)
Hands On Experience (SE/IR)		(38)
Hazards (PS)		(45)
Health Delivery Systems (RC/SP)		(32)
Informal Education (SE/PS/SO/IR) ★★		(130)
Learner Centered Instruction (FL/IR)		(35)
Learning Environment (IR/EA/HE/PS) ★★		(91)
Life Planning (CG/RC) ★★ ◆		(60)
Linkage (IR/EA) ★★ ◆		(111)
Multinational Corporations (FL/CS)		(42)
National Longitudinal Surveys (TM/UD)		(36)
Older Workers (CG) ★		(91)
Partnerships (RC/UD) ★	✓AA	(139)
Partnerships in Education(EA/HE)	✓AA	(109)
Preapprenticeship Programs ★★ ◆		(90)
Priorities (EA/PS/RC) ★		(66)
Private Industry Councils ★		(64)
Professional Role (IR/PS) ★		(84)
Reauthorization Legislation ★★		(121)
Recession (SO) ★ ◆		(50)
Resource Utilization (RC) ★ ◆		(49)
Social Security (CG/SO) ★		(156)
Social Security Benefits (CG)		(41)
Stress (Biological) (RC) ★★		(77)
Support Services (RC/PS/IR)		(43)
Temporary Employment (HE)		(38)
Transcription		(39)
Workplace Literacy		(148)

CG

		Postings
Adolescent Suicide (EA)		(36)
Age Bias (CS/PS/UD)		(35)
Avoidance Behavior		(39)
Bereavement		(52)
Blame		(30)
Case Management (EC/PS)		(71)
Client Behavior		(30)
Cognitive Complexity (CS)		(38)
Commitment ★★		(127)
Community Mental Health Centers (RC)		(45)
Computer Assisted Counseling ★		(65)
Computer Assisted Guidance (CE) ★		(53)
Confrontation		(30)
Counseling Psychology ★	✓CG	(155)
Cross Cultural Counseling		(50)
Differentiation (PS/TM)		(45)
Dominant Behavior (PS)		(30)
Emotions		(61)
Euthanasia (EC) ★ ◆		(43)
Faking (Testing) (TM)		(33)
Family Systems Theory		(57)
Family Therapy (PS)		(36)
Gestalt Psychology (CS/SO)		(41)
Halo Effect (TM)		(30)
Happiness (PS) ★		(54)
Hollands Theory of Occupational Choice		(67)
Homophobia	✓AA	(30)
Honesty (CS/EA/PS)		(37)
Housework (CE/PS)		(39)
Identity Formation ★		(88)
Individuation (PS)		(34)
Information Analysis (CE/IR) ★★ ◆		(49)
Informed Consent (HE)		(57)
Job Stress (EA/CE) ★ ◆		(49)
Life Cycles (CE) ★★		(86)
Life Expectancy (SO)		(33)
Life Transitions		(40)
Loss		(41)
Machiavellianism (CS)		(35)
Maslows Hierarchy of Needs (CE/EA/RC) ★ ◆		(50)
Meaningfulness (PS)		(34)

★ Carry-overs from Sep87 list.
★★ Carry-overs from earlier (1985, 1983, 1981) lists.
◆ Carry-overs with fewer than 15 postings since Sep87.

FIGURE VIII-1-4b

ERIC Facility; the ✓CG means submitted by the ERIC Clearinghouse on Counseling and Personnel Services.

See item D.6.e.(4) of this section, "Rule of Specificity," for more discussion on concept-type Identifiers and when they should be added to the *Thesaurus*.

c. Is It Useful?

Candidate Descriptors should be evaluated on the basis of their usefulness in communication, indexing, and retrieval. In general, the utility of terms can be estimated by considering the relative frequency of their occurrence in the literature; the relative frequency of their previous indexing use as Identifiers; their proximity in meaning to existing Descriptors; their technical precision and acceptability in the field; their transience, stability, and "staying power." These factors are interdependent and must often be considered together.

d. Is It a Synonym?

An especially important consideration in recommending a candidate Descriptor is its closeness in meaning to terms already in the *Thesaurus*. To prevent unwarranted scattering of similar information, terms having certain close relationships should be considered synonyms, i.e., synonymous from the practical point of view of retrieval.

This guideline encompasses many near- or quasi-synonymous terms that would not be considered as synonyms in ordinary contexts. Fine distinctions based on dictionary definitions are not important if they do not hold up from the point of view of searching. The following examples illustrate groups of terms that may be considered synonyms for the purposes of retrieval.

●	CITY SCHOOLS URBAN SCHOOLS	(Pairs of "pure" synonyms.)
	CLASSIFICATION CATEGORIZATION	
	SIGHT VISION	
●	ACADEMIC ACHIEVEMENT ACADEMIC PERFORMANCE	(Usage is indistinguishable in the literature.)
	ADMINISTRATION MANAGEMENT	
●	COLLEGE FACULTY COLLEGE TEACHERS	("Faculty" is technically broader than "teachers"; yet, "faculty" is the accepted term used in the literature, as well as in "real life," for postsecondary instructional staff.)

● DROPOUTS SCHOOL DROPOUTS EARLY SCHOOL LEAVERS	(For purposes of efficient retrieval, "dropouts" and "school dropouts" are considered synonymous; "early school leavers" is the British equivalent of the U.S. "school dropouts.")
● CAREER CHANGE EMPLOYMENT CHANGE JOB CHANGE OCCUPATIONAL CHANGE VOCATIONAL CHANGE WORK CHANGE	(Subtle distinctions among these terms might be made, but it is difficult to imagine a search query that should not use all of them. USE references in the Rotated Display are helpful in discovering synonymous relationships; for instance, see the word "job(s)" in the Rotated Display and how it leads to each of the other near-synonyms shown at left.)
● PHYSICAL DISABILITIES PHYSICALLY DISABLED TYPEWRITING TYPISTS	(Distinctions between "person" terms and corresponding "condition" or "function" terms often cannot be realistically teased apart in indexing.)
● MATURITY IMMATURITY NUTRITION MALNUTRITION	(Terms at opposite ends of conceptual continuums should be treated as synonyms when it is unrealistic to consider dealing with one without the other.)
● WELDING ARC WELDING GAS WELDING	(The example shows a broad term followed by two narrower terms in an area peripheral to the educational disciplines and to the interests of the ERIC system. These terms may be treated as synonyms because of their low usage level.)

Once it has been decided to consider two or more terms as synonyms for purposes of indexing and retrieval, one term must be chosen as the preferred term and entered as a Descriptor. The alternative "non-preferred" term(s) are entered as USE references (see item D.5).

Some nearly synonymous pairs or groups of terms in the ERIC *Thesaurus* are not treated as synonyms (i.e., preferred and non-preferred) because of a real need to retrieve the concepts separately. These are terms in core areas of immediate interest to the educational community and include such pairs as:

- ADVANTAGED and DISADVANTAGED;
- COLLEGES and UNIVERSITIES;
- GUIDANCE and COUNSELING.

When this situation occurs, the two terms must be cross-referenced, and Scope Notes must generally be written that will permit indexers and searchers to distinguish the terms and use them consistently.

e. How Should It Be Structured as a Candidate Descriptor?

All subject concepts not adequately covered by existing Descriptors and not "true," proper-noun type Identifiers should be evaluated as "potential" *Thesaurus* terms. Potential terms that are evaluated as synonyms to existing Descriptors should be added as UFs to those Descriptors (see item D.5 of this section). If synonymity is ruled out, potential terms are considered as "candidate Descriptors" and must be "scoped" (defined) then "fitted" into the structure of the *Thesaurus*. The mechanism for submitting candidate Descriptors (and all *Thesaurus* changes) is the "Vocabulary Development Form," discussed fully in item "E" below. As an indexer completes the form (either manually or via a computer template), a number of significant points should be kept in mind:

(1) Ambiguity

Ambiguity in terminology, created by such factors as near synonyms, homographs, differences in spelling, word forms, and hierarchical treatment, is a barrier to effective communication. In preparing a new term for the *Thesaurus*, the avoidance of ambiguity should be a first consideration. Ambiguous terminology leads to inconsistent indexing and irrelevant search output.

Ambiguity can usually be avoided by preparing clear, precise Scope Notes indicating how terms should be used. Parenthetical qualifiers, e.g., INEQUALITY (MATHEMATICS), SECURITY (PSYCHOLOGY), are particularly helpful in preventing term misuse.

(2) Specialization

Each area of educational technology usually develops its own specialized vocabulary or jargon to express the concepts peculiar to its own interests. Analysis of these specialized vocabularies reveals that many of the terms thought by a particular specialty perhaps to be unique are actually identical to (or closely related to) terms used in other areas of technology. Moreover, it is quite common for technologists in one area to borrow terms from another and to use them for their own purposes. As an example, the term "Transformation Theory" is used in both the fields of linguistics and mathematics to refer to highly different concepts. Indexers must be aware of the fact that a candidate Descriptor within their Clearinghouse's scope of interest may have other meanings in other fields. The acceptability of a term can be researched by consulting dictionaries, encyclopedias, handbooks, and other authoritative reference materials. (See item C.2 in this section.)

If a term is suspected of having multiple meanings, the Clearinghouses whose "scopes" cover the various meanings should be consulted. Each Clearinghouse has a Vocabulary Coordinator to whom questions on vocabulary matters may be directed. Throughout the Descriptor appraisal and generation process, these Vocabulary Coordinators, as well as the central lexicographic staff at the ERIC Facility, should be considered resource persons that the indexer can contact whenever necessary for advice and information.

(3) Appearance in Other Thesauri

Terminological consistency among thesauri is a desirable goal, and the vocabulary precedents established by other thesauri and subject heading lists are followed by ERIC whenever practicable. If a candidate Descriptor is included in reputable existing thesauri as a main, indexable term (i.e., not as a USE reference), then the chances are that the concept is an acceptable one. Nevertheless, it must be carefully ascertained that the structure, parenthetical qualifier, and Scope Note for the term being used as a precedent do not conflict with the intended use within ERIC.

The following list includes the principal thesauri and subject heading lists used in ERIC lexicographic analysis. The first three thesauri (items #1-3) and their respective databases (Australian Education Index, British Education Index, and Canadian Education Index) are intertwined with ERIC in a long-term cooperative initiative called International ERIC (informally, InterEd).

1. *Australian Thesaurus of Education Descriptors*. Prepared by G.B. Lavender and M.A. Findlay. Australian Council for Educational Research Limited, Hawthorn, Victoria, Australia.

2. *British Education Thesaurus*. Leeds University Press, Leeds, U.K.

3. *Canadian Education Thesaurus* (bilingual French & English). Micromedia Limited, Toronto, ON.

4. *Child Abuse and Neglect Thesaurus*. National Center on Child Abuse and Neglect, Washington, DC.

5. *Computer Database Thesaurus & Dictionary*. Information Access Company, Foster City, CA.

6. *CRS Thesaurus/Legislative Indexing Vocabulary*. Library of Congress, Congressional Research Service, Washington, DC.

7. *European Education Thesaurus* (formerly EUDISED Thesaurus---available in the nine official languages of the European Community). Office for Official Publications of the European Communities, Luxembourg.

8. *ILO Thesaurus*. International Labour Office, Geneva, Switzerland.

9. *INSPEC Thesaurus*. Institution of Electrical Engineers. INSPEC/IEEE Service Center, Piscataway, NJ.

10. *Library of Congress Subject Headings*. 3 vols. Washington, DC.

11. *Medical Subject Headings* (MeSH). 3 vols. National Library of Medicine, Bethesda, MD.

12. *NASA Thesaurus*. National Aeronautics and Space Administration, Washington, DC.
13. *National Criminal Justice Thesaurus*. National Institute of Justice/NCJRS, Rockville, MD.
14. *Nursing & Allied Health (CINAHL) Subject Heading List*. CINAHL Corporation, Glendale, CA.
15. *PAIS Subject Headings*. Public Affairs Information Service, Inc., New York, NY.
16. *SPINES Thesaurus* (English/Multilingual edition). 2 vols. UNESCO, Paris, France.
17. *SPORT Thesaurus*. Sport Information Resource Centre, Gloucester, ON.
18. *Thesaurus of Aging Terminology*. American Association of Retired Persons, Washington, DC.
19. *Thesaurus of Engineering and Scientific Terms* (TEST). Office of Naval Research (Project LEX), Washington, DC.
20. *Thesaurus of Psychological Index Terms*. American Psychological Association, PsycINFO User Services, Arlington, VA.
21. *Thesaurus of Sociological Indexing Terms*. Sociological Abstracts, Inc., San Diego, CA.
22. *UNESCO Thesaurus*. 2 vols. Compiled by Jean Aitchison. UNESCO, Paris, France.
23. *UNESCO:IBE Education Thesaurus*. UNESCO, Paris, France.
24. *A Women's Thesaurus*. Edited by Mary Ellen S. Capek. Harper & Row, Publishers, Inc., Hagerstown, MD.

(4) Previous Indexing

Some new *Thesaurus* terms require historical references to previous indexing practices in their Scope Notes. This occurs in two specific situations:

- When a new term was previously a UF.

In this case, the following kind of note is added to the Scope Note field, after the definition, or alone if no definition appears:

(NOTE: PRIOR to _Month & Year, e.g., Mar80_, THE INSTRUCTION "_New Term_, USE _old USE reference_" WAS CARRIED IN THE THESAURUS)

- When a new term was not a UF, but was previously represented by some other term(s) not obvious from the new term's display. Examples are:

(NOTE: PRIOR to Month & Year, e.g., May81 , " term xyz " WAS FREQUENTLY USED TO INDEX THIS CONCEPT)

(NOTE: PRIOR to Month & Year, e.g., Dec89 , THIS CONCEPT WAS INDEXED UNDER " term xyz ")

Such notes are usually not necessary when a new term has a BT (broader term), i.e., has an "obvious" place to go to gather previous postings.

Also, these notes would not be needed if the previous postings were light enough to permit reindexing or if there were Identifier postings that could be transferred. (See the emphasis ERIC places on reposting under item "E," "Vocabulary Development Form.")

(5) Rules

The indexer generating a candidate Descriptor recommendation should be thoroughly familiar with the *Rules and Conventions for Descriptors* (item "D" of this section) before attempting to complete the Vocabulary Development Form. These rules contain detailed information on the characteristics of ERIC Descriptors and on the cross-references, Scope Notes, and other data that make up Descriptor displays. The rules should be applied equally by both the generator of the *Thesaurus* recommendation and the lexicographer acting on it.

2. The Research Process

Indexers or users wanting to add or change something in the ERIC *Thesaurus* often ask "Where do I start?" and "What do I do when I get there?" This section will attempt to answer these basic questions.

a. Identifiers

(1) Using Them

Subject index terms evolve in ERIC from Identifier status to Descriptor (*Thesaurus*) status as they are posted to document and journal article citations to describe subject content. They will not evolve and will languish, however, if they are not posted when they should be. Clearinghouses need to appreciate and understand Identifier functions and applications and not be reluctant to use these terms. Certain categories of Identifiers should always be indexed if they represent document subject matter; these are listed under "Identifiers," in the *Indexing Reminders* section of the *ERIC Indexing Handbook (Clearinghouse Indexing Practices)*, Appendix C of the EPM. Indexers should familiarize themselves with these reminders and try to apply them consistently.

(2) Keeping a Clearinghouse List

Each Clearinghouse needs to maintain a list of new Identifiers, not yet in the IAL but used in indexing, for all indexers in the Clearinghouse to share. Each Clearinghouse Vocabulary Coordinator should keep a term file of definitions, synonyms, etc., found in incoming/inprocess documents for use in future Descriptor consideration and justification.

b. "Heavily Posted Identifiers" List

If the question is which term to work on, the best place to look first is the "Heavily Posted Identifiers" list discussed in item C.1.b of this section and illustrated in **Figure VIII-1-4**. Terms appearing on this list have been "prioritized" by the Facility lexicographic staff as needing in some way to be represented in the *Thesaurus* vocabulary, either as main terms or as USE references. A new list is created with each new edition of the *Identifier Authority List* (IAL). The particular list shown in **Figure VIII-1-4** was restricted to terms with 30 or more postings. "Heavily Posted Identifiers" are displayed in two ways: one permutation lists all of the terms alphabetically, while the other sorts the terms Clearinghouse-by-Clearinghouse based on scope area and/or responsibility for highest postings. Although arranged by Clearinghouse, anyone in the ERIC network can work on any of the terms at any time. The only preliminary activity that is needed is to notify the rest of the network of one's intentions; this can be done by transmitting the list of terms being worked on to the ERIC Vocabulary Review Group (use of E-mail for this purpose is recommended). The Facility lexicographic staff periodically updates the Heavily Posted Identifiers list by redlining terms received and acted upon, and indicating responsible Clearinghouses; this serves as an activity/status report for the network.

c. Vocabulary Tools

Before indexers begin Descriptor (*Thesaurus*) development activity, it is helpful to have available a basic collection of dictionaries and thesauri with which to consult. The minimum, general collection recommended by the Facility lexicographic staff is listed in **Figure VIII-1-5**. (A variety of dictionaries is necessary in order to have at one's disposal all possible meanings of a term, and the available multiplicity of interpretations given those meanings by diverse lexicographers.)

d. VDF Form -- Templates

ERIC *Thesaurus* additions and changes have various lexicographic criteria and format characteristics that the ERIC computer system will accept. These elements have been built into the ERIC Vocabulary Development Form (VDF) (see **item E** of this section), and indexers preparing for vocabulary development work should either have a stack of paper VDFs on hand or the form on a template that can be copied and used again and again on their microcomputers. See **Figure VIII-1-8** for a paper VDF (filled-in example). See **Figure VIII-1-9a** for a VDF microcomputer template and **Figure VIII-1-9b** for an example of what that template might look like when completed. Paper VDFs are obtained from the ERIC Facility lexicographic staff. For anyone needing a blank VDF template, the one illustrated in **Figure VIII-1-9a** is available in WordPerfect 5.1 format from the ERIC Facility. Two additional

LEXICOGRAPHIC AUTHORITIES

Dictionaries

Webster's Ninth New Collegiate Dictionary. Springfield, MA: Merriam-Webster Inc.
American Heritage Dictionary, College Ed. Boston: Houghton Mifflin.
Random House Webster's College Dictionary. New York: Random House.
Oxford American Dictionary. New York: Oxford Univ Press.
An unabridged dictionary.

Thesauri

Thesaurus of Psychological Index Terms (6th ed). Washington: American Psychological Association, 1991. $65 ($49 for members of the APA).
APA, Order Department, P.O. Box 2710, Hyattsville, MD 20784. (800) 336-4980.

Thesaurus of Sociological Indexing Terms (2d ed). San Diego: Sociological Abstracts Inc., 1989. $62.
SocAbs, P.O. Box 22206, San Diego, CA 92122.

Loo, Shirley, ed. CRS Thesaurus/Legislative Indexing Vocabulary (19th ed). Washington: Congressional Research Service, 1990.
Library Services Div., CRS, Library of Congress, Washington, DC 20540. (Free, but hard to obtain directly; CRS advises requesting via your Congressperson.) (CRS/Education Microthesaurus available also.)

National Criminal Justice Thesaurus. Rockville, MD: National Institute of Justice, 1990. Call for price [1989 ed was $25 (U.S.)].
National Institute of Justice/NCJRS, Department F, P.O. Box 6000, Rockville, MD 20850. (301) 251-5500.

Capek, Mary Ellen S., ed. A Women's Thesaurus. New York: Harper & Row, 1987. $37.50 + $2 shipping.
Harper & Row, Publishers, Inc., Mail Order Dept., P.O. Box 350, Hagerstown, MD 21741.

British Education Thesaurus (1st ed). Leeds, U.K.: Leeds University Press, 1988. 45 pounds (check newspaper for USD). (2d ed due out in Oct91.)
Leeds University Press, Univ. of Leeds, Leeds LS2 9JT, UNITED KINGDOM.

NASA Thesaurus (1988 ed). Washington: National Aeronautics and Space Administration. Vol. 1, Hierarchical Listing--$40. Vol. 2, Access Vocabulary--$20. Vol. 3, Definitions--$15.
Available from: National Technical Information Service, Dept. of Commerce, 5285 Port Royal Road, Springfield, VA 22161.

Medical Subject Headings, MeSH (1992). Bethesda, MD: National Library of Medicine. Annotated Alphabetic List--$40 (PB92-100031). Tree Structures--$35 (PB92-100049). Permuted Medical Subject Headings--$31 (PB92-100056).
Available from: National Technical Information Service (address above); prices are for U.S., Canada, and Mexico.

SPINES Thesaurus (English/Multilingual 1988 edition of the 1984 revision). Paris, France: UNESCO. Over 11,000 science and technology terms with multilingual cross-references (SPINES is an acronym for "Science and Technology Policy Information Exchange System"). $57 for two volumes: Vol. 1, Alphabetical List; Vol. 2, List of Int'l Organizations & Projects, Thematic List, Permuted List, French/Spanish/Portuguese to English Lists.
Available from: UNIPUB, 4611-F Assembly Drive, Lanham, MD 20706-4391. (301) 459-7666.

FIGURE VIII-1-5: LEXICOGRAPHIC AUTHORITIES (MINIMUM COLLECTION)

examples of what completed VDF templates might look like are shown in **Attachment #2** of this section.

e. Precedence

It is accepted practice that indexers and lexicographers should look for and generally follow the precedents laid down by those who came before them. For example, the ERIC *Thesaurus* and IAL favor PROGRAMING over PROGRAMMING, CATALOGING over CATALOGUING, DIALOG over DIALOGUE.

f. Expedience (or "Two for the Price of One")

When working on one term, references to others will be seen or will come to mind. Often it is beneficial in terms of time and effort to work on several at the same time.

RECENTLY COMPLETED THESAURUS RECOMMENDATIONS	-->	OTHER TERM(S) COMPLETED AT THE SAME TIME	
CAREER INFORMATION SYSTEMS	-->	RT	JOB BANKS
RESISTANCE (PSYCHOLOGY)	-->	NTs	RESISTANCE TO CHANGE RESISTANCE TO TEMPTATION
UF Accents (Vocal Stress)	-->	UF	Accents (Dialects)
TROUBLESHOOTING	-->	NT	DEBUGGING (COMPUTERS)

Thus, for instance, in researching TROUBLESHOOTING above, the indexer/lexicographer encountered sufficient documents and other information on DEBUGGING, to make defining and structuring two terms no more demanding than doing one.

g. *Five Easy Steps* for *Thesaurus* Recommendations

The steps numbered 1-5 below are the tasks needed to complete most Descriptor additions and changes.

(1) Scope Notes

The first thing a Descriptor or *Thesaurus* term usually needs is a definition so that indexers and users will understand how the term is used or will be used. Other database thesauri (see **Figure VIII-1-5** and item B.6 of this section) should be checked to see how they define and use a term; definitions can be borrowed "as is," without attribution. Care should be taken to ensure that plural Scope Notes are used for plural terms and singular Scope Notes for singular terms.

Dictionaries and glossaries should also be checked if they are relevant to the context of the term being researched (i.e., likely to have the term). The ERIC database itself should be searched, titles examined from the printouts, and appropriate documents selected for detailed examination usually via microfiche. Definitions selected or culled from the actual ERIC literature are usually more meaningful and comprehensive than those found in dictionaries. Much of this work will have already been done, however, if one has remembered to document the term as it was indexed on new accessions (see item C.2.a.(2), "Keeping a Clearinghouse List," above).

Definitions found should be keyed or written out one by one (with authority titles noted before or after each). Three definitions from three authorities (ERIC documents are accepted as authorities) should be the minimum number considered. But one should not get carried away! Definition data beyond what normally would fit on a page of 12-point type is probably excessive. The idea is to get several definitions from different authorities that can be examined as one package, and from which a final definition or Scope Note can be synthesized. All syntheses, from the first attempt to the final version, may be accumulated, providing a record of the processes one goes through in defining a term. Such documentation is useful to the final term-recommendation package submitted to the Facility lexicographic staff.

Care should be taken to parenthetically qualify a term that is ambiguous, e.g., SYMPTOMS without qualification is too broad. It is also helpful for terms that are defined restrictively to give the *Thesaurus* user somewhere else to go, e.g.:

RESTRICTIVE SCOPE NOTE DEFINITIONS	ALTERNATIVES GIVEN IN PARENTHETICAL INDEXING NOTE (OF SCOPE NOTE)
DEFENSE MECHANISMS -- Intrapsychic strategies used by individuals to avoid or confront unreasonable or undesirable impulses, feelings, or ideas	(Note: For physiological or zoological defense mechanisms, use "Defense Reactions (Physiology)" or "Animal Defenses" as Identifiers)
PAIN -- Distress and suffering caused by injury or disease of the body	(Note: Do not use for emotional pain, for which see the Identifier "Emotional Distress")
DEPENDENCY (PERSONALITY) -- Reliance on other persons or things for comfort and support	(Note: Do not use for drug or economic dependence, for which see DRUG ADDICTION or the Identifier "Dependency (Economics)")

Additionally, the Scope Note may need to advise indexers and users of indexable Identifiers in addition to available Descriptors. For example, the Scope Note for PAIN advises "see also Identifiers "Low Back Pain," "Pain Control," and "Pain Tolerance" -- this reminds indexers of Identifiers in addition to the most specific available Descriptor and searchers of additional available retrieval terms.

(See rules and conventions for **Scope Notes**, item D.4 of this section.)

(2) **UF/USE Terms**

These become more apparent as a term is analyzed and scrutinized in the course of the vocabulary development process. UFs should be documented when encountered in the literature and, when readied for *Thesaurus* input, should each be searched free-text in ERIC to reveal additional variations. Scattered or inconstant Identifier forms provide many clues. Providing that the ERIC criteria are met, the most commonly used form would normally be picked as the main *Thesaurus* term.

(See rules and conventions for **UF/USE References**, item D.5 of this section.)

(3) **BTs/NTs (Hierarchical / Generic Structuring)**

Properly placing a term in its proper *Thesaurus* hierarchy is not especially complicated if one remembers to compare similar or parallel terms' hierarchies (e.g., HOMICIDE/SUICIDE generic trees) and to find the best fit therein. Indexers should evaluate potential hierarchical placements all the way up the hierarchy. For example, PRIVATE SECTOR might look suitable initially as an NT in the display of ECONOMICS, but ECONOMICS is an NT of LIBERAL ARTS, and it is obvious from looking at the total LIBERAL ARTS hierarchy (in the *Thesaurus* Hierarchical Display) that PRIVATE SECTOR does not belong there.

(See rules and conventions for **Narrower Terms/Broader Terms**, item D.6 of this section.)

(4) **RTs (Related Terms) / Group Code**

Related Terms (RTs) can be collected in the database search part of the vocabulary development exercise, described in item C.2.g.(5) immediately below (as opposed to the authority search (Scope Note) part described in item C.2.g.(1) above). The Descriptors indexed on the accessions retrieved in the search of a given term should be looked at accession-by-accession and the ones recorded that appear to be closely related to the term in question. The recorded terms should be alphabetized, then evaluated in the context of each of their reciprocal displays. Frequency of concurrent occurrences is a possible relatedness gauge. NTs of a single BT are often RTs of each other (e.g., MOODS/ANXIETY/MORALE are NTs of the BT PSYCHOLOGICAL PATTERNS and RTs of each other). Proliferation of RTs can usually be avoided if one avoids the redundancy of carrying both general/broader and specific/narrower terms (e.g., *not* carrying FAIR USE (COPYRIGHTS) in the displays of FILMS, PUBLICATIONS, and PLAGIARISM when the general term COPYRIGHTS is already there).

By noting the Group Codes of the various terms considered as possible cross-references, one will arrive at a reasonably good idea of the appropriate Descriptor Group for a term by the time cross-referencing has been completed.

(See rules and conventions for **Related Terms** and **Descriptor**

Groups, items D.7 and D.3 of this section, respectively.)

(5) **Backfile**

The back of the Vocabulary Development Form asks for two impact statements regarding each Thesaurus transaction, i.e., (1) Impact on the Thesaurus, and (2) Impact on the Database. The "Impact on Thesaurus" block is intended as a reminder to always consider the "terminology terrain" encompassing a given concept. Preparers use the space provided to include information that will support or justify their recommendation. The Facility lexicographic staff generally copies data word-for-word from this block for use in the Vocabulary Status Report, disseminated to the ERIC Vocabulary Review Group. The block can be left blank. Contrived, "pat" phrases such as "this term is a rapidly growing concept, important to the field supported by this Clearinghouse," which carry no substantive information, should be excluded.

Indexers and other preparers of the Vocabulary Development Form frequently approach the "Impact on Database" block with more trepidation than any other element on the form. This is because the decision on how much to search is often subjective, based on a conception of what "typical" users might want or need. Preparers must put themselves in the place of the users, searching as comprehensively (as far back in time) as judged to be reasonable and practical for the user group members. ★Searches should consider Identifier hits first, followed by searches of titles, full-text (abstract, etc.)/latest years, and full-text/other years, in that order. Also, vocabulary searching is usually more cost-effective if done using a CD-ROM system. The complete full set of citations found can first be winnowed down considerably by removing those having one or more of the Identifiers selected for transfer (and listed on the VDF form). Upon achieving the set of citations after "notting out" the Identifiers, a CD-ROM system can be used to page down through the full records one-by-one. The preparer should mark on the computer or on paper those to be posted major or minor while "Xing out" any that are not relevant. As the exercise progresses, additional Identifiers for transfer will be identified. A list of potential RTs should be made from the index terms in each record (see item on "RTs/Group Code" above).

(Note: Because most proposed Descriptors worked on by Clearinghouse staff are within that particular Clearinghouse's scope area, vocabulary development searching usually replicates existing, inhouse searching done as part of user services. Any new searches that are required should ordinarily still be appropriate for inclusion in the Clearinghouses' collections of convenient "search saves.")

Thesaurus changes, like new terms, are recommended and entered using the Vocabulary Development Form. Preparers should input only the part of a term display that needs to be changed. It is helpful to avoid minor format changes like DOWNS SYNDROME --> DOWN SYNDROME, LIMITED ENGLISH SPEAKING --> LIMITED ENGLISH PROFICIENT, where alternatives and originals are alphabetically adjacent, until such time as the entire ERIC file can be made consistent via a reload.

h. Other Reminders

Proposed new or modified Descriptor displays are always documented on the Vocabulary Development Form. In addition to the basic recommendation itself, each form submitted to the ERIC Facility for *Thesaurus* consideration generally should include the following:

(a) Back of Form

i) 3+ authorities (definitions or Thesaurus displays);
ii) Identifier list (terms to be transferred to Descriptors);
iii) Accession number list with major/minor distinctions (excludes accessions posted by Identifiers in above list).

(b) Computer search

i) Search strategy;
ii) Typed/Printed Records -- may be marked up with the preparer's major/minor designations, explanatory notations, etc.; may be submitted on floppy disks (3½- or 5¼-inch); printouts of unedited records, particularly of those using previously listed Identifiers (from "Identifier List," item ii above), normally should not be sent to the Facility.

(c) Copies of pages from ERIC documents and specialized dictionaries, containing definitions or other explanatory materials (copying of standard dictionary pages is unnecessary).

D. Rules and Conventions for Descriptors

1. General

The rules and conventions that follow have been designed to help ERIC indexers and lexicographers make consistent decisions relating to the addition and modification of terms in the *Thesaurus of ERIC Descriptors*. They are based on two earlier ERIC publications:

- ED 033 740---*Rules for Thesaurus Preparation*, 2nd edition. September 1969. Prepared by the Panel on Educational Terminology (PET)[*], U.S. Office of Education.
- ED 188 621---*VIP Manual: Guidelines and Procedures for ERIC Vocabulary Development*. December 1978. Prepared by Barbara Booth, first coordinator of the 1977-80 ERIC Vocabulary Improvement Project (VIP).[*]

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[*] For more discussion, see the **Attachment #1** to this section, History of the Thesaurus of ERIC Descriptors.

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Rules for Descriptor selection and construction are covered below under "Main Terms." This is followed by detailed discussions of each of the parts of main term displays, including "Descriptor Group" codes, "Scope Notes" or term definitions, and cross-references. Cross-references include Used For/USE References, Broader/Narrower Terms, and Related Terms.

These rules must be adhered to in the completion of the Vocabulary Development Form (see item "E" of this section). The rules follow the standards of practice advocated by the *American National Standard Guidelines for the Construction, Format, and Maintenance of Monolingual Thesauri* (ANSI/NISO Z39.19-199x).**

2. Main Terms

a. General

The concepts "main term" and "Descriptor" are equivalent when used in the sense of controlled thesaurus vocabularies. Main terms are the preferred, postable terms in a thesaurus; they are used to index and search (i.e., describe and retrieve), in a consistent manner, the subject content of documents entered in an information system.

Any information retrieval Thesaurus will also contain "non-preferred" synonyms or quasi-synonyms, included to provide alternative pathways to the main terms or Descriptors. In ERIC, these are referred to as "USE references."

The following discussion focuses on the selection and construction of ERIC "Descriptors." See item D.5 of this section for details on "USE references."

b. Descriptor Selection

A Descriptor is any single or multiword term that appears in the *Thesaurus* and that may be used for indexing a document or journal article. Rules for selecting Descriptors are as follows:

(1) Appearance in Literature

★*Descriptors should represent important concepts actually found in the literature of the database (as contrasted with concepts arrived at theoretically, independent of the literature).* They should also reflect the actual language used in the literature to express such concepts.

(2) Acceptability to ERIC Users

Descriptors selected should have an agreed-upon meaning and should be acceptable terminology for relevant user groups. The judgment of acceptability will involve decisions as to obsolescence, negative connotations, colloquialness, and other factors.

Acceptability must be considered in terms of the wide-ranging scope of

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**Proposed 1990 revision of ANSI Z39.19-1980. Developed by the National Information Standards Organization (NISO); circulated 1/10/90 among NISO voting members for comment.

education and its highly diversified user community. Care should be taken to avoid parochial points of view. Compromise may be necessary when the terminology needs of separate areas of specialization are in conflict. (See also rule "(6)" under "Descriptor Construction" below.)

(3) **Usage Frequency**

Frequency of occurrence is a factor in establishing Descriptors. Records should therefore be kept of the number of times candidate terms have been used in indexing and/or searching.

NOTE: As a general rule of thumb, concepts should be considered candidate Descriptors after 5 usages as Identifiers and should be included somewhere in the structured *Thesaurus* vocabulary (either as Main or USE terms) after approximately 10 usages. Excluded from this rule are, of course, those Identifiers representing very specific entities that cannot qualify for Descriptor status (e.g., names of organizations, projects, people, specific equipment, geographic locations, etc.).

(4) **Multiword Descriptors**

Multiword Descriptors (bound terms, precoordinated terms, and others) should be used whenever single-word Descriptors cannot describe concepts adequately. Many problems of this type can be solved by the careful application of rule "(1)" above. The following points should be considered:

- Use of a multiword Descriptor is justified if any of the individual words in the multiword Descriptor could combine with other Descriptors so as to produce frequent false coordinations.

  Example: STUDENTS
  TEACHERS
  ATTITUDES
  STUDENT ATTITUDES
  TEACHER ATTITUDES

- Use of a multiword Descriptor is justified if the individual words of that multiword term are also unique Descriptors that, when coordinated with each other, would retrieve concepts different from that retrieved by the multiword term.

  Example: STUDENTS
  TEACHERS
  STUDENT TEACHERS

- If a single-word term is so general as to be virtually useless in manual searching (e.g., SCHOOLS), consider linking that term with another term (e.g., SECONDARY SCHOOLS).

(See also rule "(7)" under "Descriptor Construction" below.)

c. **Descriptor Construction**

(1) **Word Form**

Descriptors are limited to nouns and noun phrases; however, these include nouns derived from verbs and adjectives.

DISADVANTAGED	(from adjective)
DROPOUTS	(from verb + adverb)
PROBLEM SOLVING	(from verb + object)
STUDENT EVALUATION OF TEACHER PERFORMANCE	(noun phrase)

(2) **Singular vs. Plural**

In choosing between singular and plural noun forms, the precedents of the ERIC *Thesaurus* (based on long-established rules of major indexing and subject cataloging operations) should be followed:

- The plural form should be used for "count nouns"---things or entities about which one asks "how many?," e.g.,

  COMPUTERS
  OCCUPATIONS
  PROGRAMS
  SKILLS
  STUDENTS
  VISUAL IMPAIRMENTS

- The singular form should be used for "mass nouns"---nouns about which one asks "how much?" This includes those nouns derived from verbs and adjectives that represent processes, attributes or properties, and conditions, e.g.,

  ABILITY
  ACHIEVEMENT
  BACKGROUND
  DELINQUENCY
  EVALUATION
  LEADERSHIP
  REGIONAL PLANNING
  TIME

- Common usage should be followed for term types not covered by these general rules, e.g.,

  DEMOCRACY not DEMOCRACIES

(3) **Length**

Descriptors are limited to 50 characters, including blanks.

(4) **Character Limitations**

Allowable characters are limited to the letters A-Z, the Arabic numerals 0-9, and parentheses ().

(5) **Letters First**

A Descriptor should not begin with a numeral, e.g.,

GRADE 4 not 4th GRADE

(6) **Parenthetical Qualifiers**

Parentheses may be used for two purposes, i.e.,

- Homographs

If a Descriptor is judged to be a homograph, it must have a parenthetical qualifier, e.g., DEPRESSION (PSYCHOLOGY), DEPRESSION (ECONOMICS).

The parenthetical qualifier is considered an integral part of the Descriptor, and both homograph and qualifier are used together in indexing and searching.

For any given homograph, there may exist as many Descriptors consisting of homograph plus parenthetical qualifier as there are unique indexable meanings for that homograph.

Caution: Do not use another homograph as a parenthetical qualifier, e.g.,

GRADES (SCHOLASTIC) not GRADES (MARKS)

- Invalid Descriptors

Invalid Descriptors ("dead" terms) are qualified with notations indicating their "life span," e.g., LABORATORY TECHNIQUES (1967 1980), SECURITY (1967 1978).

Life span qualifiers are integral parts of invalid Descriptors, and their presence precludes further indexing use of such Descriptors.

(See discussion on "Former Main Terms" below, item "e".)

(7) **Natural Word Order**

Multiword Descriptors should reflect direct, natural word order, as found in the literature.

ADULT EDUCATION	not	EDUCATION OF ADULTS
FREEDOM OF SPEECH	not	SPEECH (FREEDOM OF)

Do not use inverted entries.

BEHAVIORAL OBJECTIVES not OBJECTIVES, BEHAVIORAL

One of the reasons for restricting the use of parenthetical qualifiers to homographs and invalid Descriptors is to preclude the use of inverted entries. All words in the *Thesaurus*, whatever their position in the Descriptor, are accessible through the Rotated Display, thereby making inverted entries unnecessary. (See item B.7.b.(1).)

(8) Abbreviations and Acronyms

Abbreviations and acronyms are inherently ambiguous and should generally be avoided as Descriptors. Exceptions to this rule are acronyms that have replaced their spelled-out versions in common discourse, either nearly (e.g., FLES) or totally (e.g., LASERS). Most acronyms that appear in the *Thesaurus* are non-indexable USE references (e.g., ETV, Use EDUCATIONAL TELEVISION).

(9) Sex Neutral Terminology

Sex neutral Descriptors are preferred when a concept is intended to refer to both sexes, e.g.,

CRAFT WORKERS	not	CRAFTSMEN
ENLISTED PERSONNEL	not	ENLISTED MEN
HOMEMAKERS	not	HOUSEWIVES
LAY PEOPLE	not	LAYMEN
LABOR NEEDS	not	MANPOWER NEEDS
SEAFARERS	not	SEAMEN
NEEDLEWORKERS	not	SEAMSTRESSES

Preference of sex neutral language does not preclude the creation of legitimate population terms such as EMPLOYED WOMEN, FATHERS, WOMEN FACULTY, etc. Terminology of this nature is necessary when such specific population groups are the frequent subjects of documents.

d. Descriptor Format

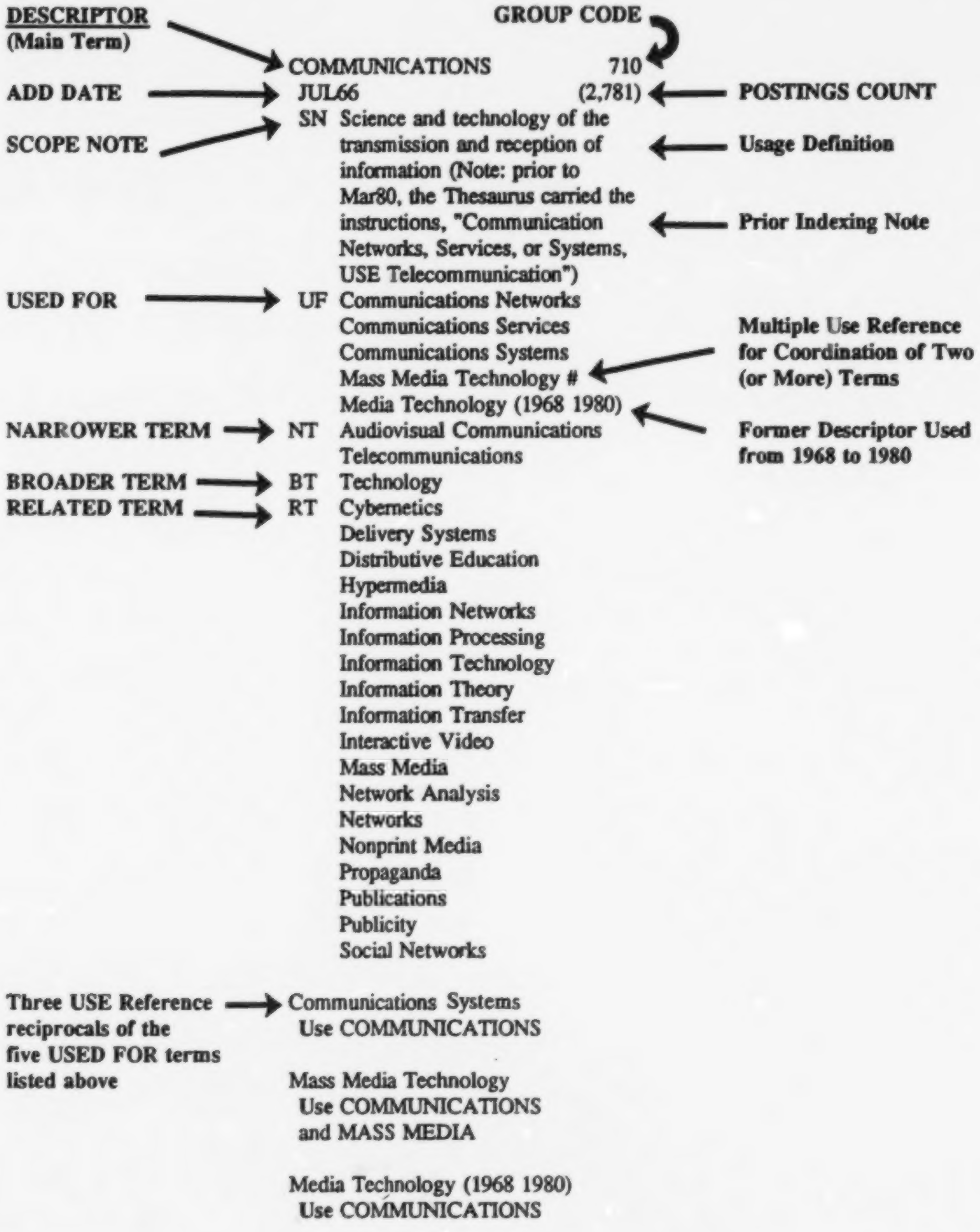
(1) Structure (Alphabetical Display)

The structure of a typical Descriptor in the main Alphabetical Display (Working Copy) is illustrated in **Figure VIII-1-6**.

(2) Capitalization

Although **Figure VIII-1-6** shows upper and lower case letters, the *Thesaurus* file is actually in all upper case, and the *Thesaurus* Working Copy used by ERIC indexers appears in all upper case. Indexers are required to transcribe terms in their Working Copies to the upper/lower case format of RIE/CIJE records---initial capital letters for all words, excluding prepositions, articles, and conjunctions when they are not the first word (e.g., Reduction in Force, In State Students).

The published *Thesaurus* editions appear in upper/lower case; these are programmatic conversions (done by the publisher) of the all upper case



DESCRIPTOR **(Main Term)**		**GROUP CODE**
	COMMUNICATIONS 710	
ADD DATE	JUL66 (2,781)	**POSTINGS COUNT**
SCOPE NOTE	SN Science and technology of the transmission and reception of information (Note: prior to Mar80, the Thesaurus carried the instructions, "Communication Networks, Services, or Systems, USE Telecommunication")	**Usage Definition** **Prior Indexing Note**
USED FOR	UF Communications Networks	
	Communications Services	
	Communications Systems	
	Mass Media Technology #	**Multiple Use Reference for Coordination of Two (or More) Terms**
	Media Technology (1968 1980)	**Former Descriptor Used from 1968 to 1980**
NARROWER TERM	NT Audiovisual Communications	
	Telecommunications	
BROADER TERM	BT Technology	
RELATED TERM	RT Cybernetics	
	Delivery Systems	
	Distributive Education	
	Hypermedia	
	Information Networks	
	Information Processing	
	Information Technology	
	Information Theory	
	Information Transfer	
	Interactive Video	
	Mass Media	
	Network Analysis	
	Networks	
	Nonprint Media	
	Propaganda	
	Publications	
	Publicity	
	Social Networks	
Three USE Reference reciprocals of the five USED FOR terms listed above	Communications Systems Use COMMUNICATIONS	
	Mass Media Technology Use COMMUNICATIONS and MASS MEDIA	
	Media Technology (1968 1980) Use COMMUNICATIONS	

FIGURE VIII-1-6: SAMPLE *THESAURUS* ENTRY

Thesaurus master file.

(3) **Alphabetization**

Alphabetization of the main Alphabetical Display is word-by-word according to the following sequence:

Left Parenthesis;
Letters in Usual Order;
Numerals in Usual Order.

Word-by-word ordering (corresponding to the subject indexes of RIE and CIJE) began in 1980, as a conversion from letter-by-letter alphabetization.

(4) **Group Codes**

The 3-digit Group Code is used to place a particular Descriptor in one of 41 Descriptor Groups. These groups are broad subject categories that provide an overview of the *Thesaurus* vocabulary. They can be used for general browsing or for searching. For more information, see item D.3 of this section.

(5) **Add Dates**

An Add (entry) Date, e.g., APR90, accompanies each Descriptor in the main Alphabetical Display. Add Dates are assigned programmatically at the time a term enters the *Thesaurus* file. The earliest "real" Add Date is AUG68. Month and year of entry are given for each Descriptor added from AUG68 to the present. All Descriptors entered earlier than AUG68 have been given the arbitrary Add Date of JUL66, the approximate point in time at which ERIC indexing began.

Add Dates are intended to help users in the preparation of search strategies. They represent calendar dates, not RIE or CIJE issue dates. Rigid interpretation of Add Dates should be avoided. A given addition may not show up in RIE or CIJE for up to 6 months after its Add Date. Also, because of backfile corrections, Descriptors may sometimes be seen on accessions that are earlier than the Add Dates of these same Descriptors. Additionally, postings of Descriptors carrying JUL66 may not actually go back that far in time, or may be earlier if applied to one of the original, pre-RIE historical collections (Disadvantaged, OE Research Reports 1956-65, etc.).

(6) **Postings Counts**

As an additional aid to users, the Alphabetical Display provides a Postings Count for each Descriptor. This notation indicates the number of times the term has been used as either a major or minor Descriptor in ERIC indexing. It appears on the second line of the Descriptor display and above the Scope Note. In the Working Copy, it is to the right of the Add Date and within parentheses, and shows total ERIC postings for the term at the time the particular issue was produced. In the published *Thesaurus*, separate postings counts are given for CIJE and RIE.

Examination of the postings for a Descriptor may lead the user to check the term's cross-references. For example, a term with 3,000 postings cannot be searched easily manually, but one or more of its Narrower Terms (NTs) might well be. On the other hand, a term with only 15 postings might suggest that the searcher also consider including the term's Related Terms (RTs) or even its Broader Terms (BTs) in the search strategy.

All terms in the *Thesaurus* have actually been used in indexing. Any terms showing zero postings were in the process of being re-posted as that particular *Thesaurus* edition went to press, and will show their true postings in subsequent issues.

(7) Scope Notes

Descriptor Scope Notes (SNs) give definitions and/or usage restrictions, and often provide special instructions for indexers and searchers. For a complete discussion of Scope Notes (their roles, how they are developed, how to interpret them, etc.), see item D.4 of this section.

(8) Cross-References

At least one of the following types of cross-references accompanies every Descriptor in the *Thesaurus*' Alphabetical Display. See items as indicated (in this section) for complete details about each type.

- UF (Used For)/USE References----item D.5.
- Narrower Terms/Broader Terms----item D.6.
- Related Terms----item D.7.

(9) *Thesaurus* Displays

In addition to the main Alphabetical Display, three additional displays of the *Thesaurus* are provided to assist in indexing and searching. These are the Rotated Display, Hierarchical Display, and Descriptor Group Display. See this section's item B.7 for a discussion of each.

e. Former Main Terms

Former indexable Descriptors are identified in the *Thesaurus* by parenthetical "life span" notations, e.g., "(1982 1990)." These notations show the period of time in which the terms were used in indexing.

These terms fall into categories "(1)" and "(2)" below. A third category "(3)" no longer appears in the *Thesaurus*.

(1) "Transferred" Descriptors

These are former main terms that have been downgraded to the status of USE references, e.g.,

Personal Relationship (1966 1974)
  Use INTERPERSONAL RELATIONSHIP

Physics Teachers (1967 1980)
  Use PHYSICS
  and SCIENCE TEACHERS

These notations indicate that the postings of the first term in each set were "transferred" to the other term(s), i.e., the terms were merged in order to facilitate retrieval. The reason for merging the first set was to consolidate the postings of two synonyms under a single preferred form. The reason for merging the second set was to eliminate a term that had been used infrequently (and somewhat inconsistently).

Reasons for transferring or merging Descriptors, other than the need to collapse synonyms (or near-synonyms) and low-posted terms, include replacement of obsolete, ambiguous, or incorrect terminology. All transactions of this nature are made only to facilitate retrieval, a fact that must be demonstrated before such changes are approved.

Parenthetical life span notations inform users of older manual indexes and computer files that they must use these former terms to achieve complete retrieval. The major database vendors at times have updated their ERIC files to reflect postings "transfers," and users of these services in most instances need only to search currently active Descriptors to obtain records posted originally by the transferred terms. Postings transfers of approximately 840 Descriptors before December 1980 (when the last complete reload of ERIC by all major vendors occurred) are reflected in the ERIC database, and these Descriptors no longer need to be considered in online or other computer searching. Transfers after December 1980, however, have not been fully implemented in the ERIC vendor files, and both old and new versions of a term must be used in retrospective searching. All "transferred" ERIC Descriptors that are still searchable are listed in commercially published editions of the ERIC *Thesaurus* (see "Transferred Descriptors" in the Table of Contents).

(See also "Transferred Descriptors" discussion under "UF (Used For)/USE References," item D.5 of this section.)

(2) Invalid "Dead" Descriptors

Occasionally, Descriptors have appeared in the *Thesaurus* file that, because of inherent ambiguity or subsequent indexing practices, are used so inconsistently that their utility in retrieval is seriously diminished. Such Descriptors, when discovered, are converted to invalid or "dead" terms.

Invalid Descriptors have the same display format as active Descriptors except for having no cross-references (no UFs, NTs, BTs, RTs). More important, however, are two additional identifying characteristics: a "life span" notation indicating the span of time the term was actually in use, and a Scope Note indicating how the term was used and leading indexers and searchers to more precise or meaningful terminology.

Example: SPATIAL RELATIONSHIP (1966 1980) 920
Mar80 (254)
SN Invalid Descriptor---Used for both the spatial relationship among areas of a facility and the spatial orientation of individuals---See the Descriptors "Spatial Relationship (Facilities)," "Spatial Ability," and "Personal Space" for these concepts

Invalid Descriptors have the same main-entry form as Descriptors that have been downgraded to UF status; however, there is a significant difference between the two. Former Descriptors shown in the *Thesaurus* as UFs have been, or are in the process of being, deleted from the ERIC computer files, i.e., their postings have been (or will be) "transferred" to the preferred USE term(s). (For the present status of these terms, see the "Transferred Descriptors" section of the published ERIC *Thesaurus*.) On the other hand, invalid Descriptors remain in the ERIC files, and a comprehensive computer search of subjects represented by invalid Descriptors would necessitate their inclusion in one's search strategy. (For a complete list of invalid Descriptors, see the "Invalid ('Dead') Descriptors" section of the published ERIC *Thesaurus*.)

A major objective of the ERIC system is the maintenance of synchronous authority and index (postings) files. Most former main terms can be automatically reposted to one or more active Descriptors. Invalid Descriptors, however, cannot be handled in this manner. The inconsistency of their postings makes invalid Descriptors what they are. "Dead term" status effectively puts a hold on a concept, preventing its further use in indexing and allowing it to be set aside for possible manual reindexing (i.e., individual examination and reindexing of original records) at a later date. As time and funds permit, invalid Descriptors are reposted to preferred, active terms.

(See also discussion on "Ambiguous Usage" under "Scope Notes," item D.4 of this section.)

(3) Deleted Descriptors

This third category of former main terms refers to concepts that have been totally removed from the *Thesaurus* file. The total number of terms in this group is quite small as compared to the other two categories, comprising no more than 30 Descriptors since ERIC became fully operational in 1966. These terms may be characterized by one of the following descriptions:

- Little-used ambiguous terms that encompass no appreciable subject content, e.g., ADVANCED SYSTEMS, LIMITED EXPERIENCE.

  (These have been purged from the ERIC database and are no longer searchable; they may, however, be seen in older printed indexes.)

- Little-used highly specific terms whose existence cannot be justified because there is little or no data in ERIC on the subjects they represent, e.g., BIRACIAL GOVERNMENT, CABINET TYPE PROJECTORS.

(Like the first type, these also have been purged and are no longer searchable.)

- Highly specific proper nouns or coined terminology that more appropriately should be posted in the Identifier field, e.g., CHAUTAUQUAS.

(Though no longer in the *Thesaurus*, such terms are legitimate Identifiers and may be searched---see "Identifiers," Section VIII (Part 2).)

3. Descriptor Groups

The ERIC *Thesaurus*, like many other information retrieval thesauri (particularly those that cover fields as broad as "education"), incorporates a system of broad subject categories into which all Descriptors are grouped. These "Descriptor Groups" essentially represent a "table of contents" to the *Thesaurus* and provide an overview of the subject coverage of the ERIC system. Descriptor Groups provide easy initial access to the *Thesaurus* and are particularly useful to new or infrequent ERIC indexers and searchers who need to quickly obtain a basic familiarity with the total ERIC vocabulary. Descriptor Groups can also be helpful to the more experienced user in providing a means of narrowing down the total number of terms to be looked at, whether the task is indexing, searching, or lexicographic analysis.

The current ERIC Descriptor Groups are listed in **Figure VIII-1-7**; each group is identified by a unique 3-digit code.

This set of 41 Descriptor Groups was developed during the 1977-80 Vocabulary Improvement Project and first appeared in the 8th published edition of the *Thesaurus* (Completely Revised, 1980). A previous set of 52 groups (developed in the late 1960s) appeared in earlier published *Thesaurus* editions. There was much overlap between the earlier groups and the *Thesaurus* hierarchies. One of the purposes of the revision was to eliminate, as much as possible, this unnecessary hierarchical reiteration.

The Descriptor Group section of the published *Thesaurus* includes a Scope Note for each group, indicating subject coverage and including cross-references to other closely related groups. This is followed by a "Descriptor Group Display" in which the terms are listed alphabetically within each group.

The Descriptor Groups are represented by the series of 3-digit codes shown in **Figure VIII-1-7**. Each *Thesaurus* Descriptor has one of these codes in its record. The Alphabetical Display carries this code and serves as an index or key to the groups.

Groups Related to LEARNING AND DEVELOPMENT

110 LEARNING AND PERCEPTION
120 INDIVIDUAL DEVELOPMENT AND CHARACTERISTICS

Groups Related to PHYSICAL AND MENTAL CONDITIONS

210 HEALTH AND SAFETY
220 DISABILITIES
230 MENTAL HEALTH
240 COUNSELING

Groups Related to EDUCATIONAL PROCESSES AND STRUCTURES

310 THE EDUCATIONAL PROCESS: CLASSROOM PERSPECTIVES
320 THE EDUCATIONAL PROCESS: SCHOOL PERSPECTIVES
330 THE EDUCATIONAL PROCESS: SOCIETAL PERSPECTIVES
340 EDUCATIONAL LEVELS, DEGREES, AND ORGANIZATIONS
350 CURRICULUM ORGANIZATION
360 STUDENTS, TEACHERS, SCHOOL PERSONNEL

Groups Related to CURRICULUM AREAS

400 SUBJECTS OF INSTRUCTION
410 AGRICULTURE AND NATURAL RESOURCES
420 ARTS
430 HUMANITIES
440 LANGUAGES
450 LANGUAGE AND SPEECH
460 READING
470 PHYSICAL EDUCATION AND RECREATION
480 MATHEMATICS
490 SCIENCE AND TECHNOLOGY

Groups Related to HUMAN SOCIETY

510 THE INDIVIDUAL IN SOCIAL CONTEXT
520 SOCIAL PROCESSES AND STRUCTURES
530 SOCIAL PROBLEMS
540 BIAS AND EQUITY
550 HUMAN GEOGRAPHY
560 PEOPLES AND CULTURES

Groups Related to SOCIAL/ECONOMIC ENTERPRISE

610 GOVERNMENT AND POLITICS
620 ECONOMICS AND FINANCE
630 LABOR AND EMPLOYMENT
640 OCCUPATIONS
650 BUSINESS, COMMERCE, AND INDUSTRY

Groups Related to INFORMATION AND COMMUNICATIONS

710 INFORMATION/COMMUNICATIONS SYSTEMS
720 COMMUNICATIONS MEDIA
730 PUBLICATION/DOCUMENT TYPES

Groups Related to MEASUREMENT AND RESEARCH

810 RESEARCH AND THEORY
820 MEASUREMENT
830 TESTS AND SCALES

Groups Related to FACILITIES AND EQUIPMENT

910 EQUIPMENT
920 FACILITIES

FIGURE VIII-1-7: DESCRIPTOR GROUPS

Example:

Alphabetical Display

ADULT LEARNING 110
JUL66 (1,822)
BT Learning
RT Adult Development
Adult Education
Adult Programs
Adult Students
Adults
Andragogy
Lifelong Learning

Descriptor Group Display

110
LEARNING AND PERCEPTION

Ability Identification
Abstract Reasoning
Adult Learning
Arousal Patterns
Associative Learning
Attention
Attention Control
Audience Response
Auditory Discrimination
Auditory Perceptio
Audito imuli
Aural ing
Beh ni

The Descriptor Groups have had many roles in the past. At one time, the journal article citations in CIJE were arranged by Descriptor Groups. Several users have reported the utility of the groups in organizing various files, cataloging systems, awareness profiles, etc. Also, for a time, one of the online database vendors included Group Codes as an ERIC search option, allowing retrieval of all documents posted by a group's terms or subsets of those terms, and coordination of an entire group with single *Thesaurus* terms.

While sometimes helpful in the refinement of computer searches, Descriptor Groups are basically a tool for manual browsing, and users should be cautioned not to construe them as a formal classification scheme. Document indexing and search request formulation should never be based on Descriptor Groups alone. Before accurate decisions can be made on the use of individual Descriptors, they must be seen in the context of their hierarchies (the Hierarchical Display is a classified arrangement) and of the main Alphabetical Display with its Scope Notes and cross-references.

Individual Descriptors may often be conceptually broader than their group assignments might imply. For example, terms that have been scoped to include subject matter both within and outside of the education field may be found in "Groups Related to Educational Processes and Structures." Such group assignments are based on the way the terms are most frequently used in ERIC indexing.

Each term in the *Thesaurus*, excluding UFs, is assigned to one Descriptor Group and to only one. However, many terms would admittedly appear to warrant assignment to more than one group. This situation is generally most apparent among closely related, conceptually overlapping Descriptor Groups (the groups are not mutually exclusive). The problem is currently handled with "see" and "see also" cross-references in the Scope Notes of the Descriptor Groups. Multiple-group assignments, while a possibility, are not planned for the immediate future. Such a capability would probably be most helpful when using the Descriptor Groups for searching, but more evidence of the day-to-day operational utility of the groups for this purpose is required.

The following guidelines are provided for selecting the one proper Descriptor Group for a given Descriptor:

- Group assignment should be made on the basis of the Descriptor's relationship to the entire field of education, rather than to a specialty (such as a particular Clearinghouse's subject area).

- Consult the Descriptor Group Display to determine:

  --- The assignment of similar, parallel, comparable, or analogous concepts.

  --- The assignment of terms that will be cross-referenced in the display of the Descriptor in question.

- Keep in mind that Descriptor Groups are adjuncts to other *Thesaurus* structures and displays. In evaluating whether a given term would be better in one group or another, consider its impact in each context. For instance, is CULTURE FAIR TESTS more illuminating or valuable to someone scanning the BIAS AND EQUITY group or the TESTS AND SCALES group? In this case, CULTURE FAIR TESTS is already displayed together with the other "test" terms in the Rotated Display, in the Hierarchical Display under TESTS, and in the main Alphabetical Display as a direct NT of TESTS. Assigning it to BIAS AND EQUITY provides a new view of this term.

- Use the guidance provided by the Descriptor Group Scope Notes. For instance, the Scope Note of the EQUIPMENT group says "see DISABILITIES for special equipment serving the handicapped," and one may find in this latter group such terms as HEARING AIDS and WHEELCHAIRS. The Scope Note of the OCCUPATIONS group specifically refers the user to a number of more precise groups, including HEALTH AND SAFETY, where terms such as NURSES and PHARMACISTS may be found.

Once the choice of the most appropriate Descriptor Group has been made for a given term, the 3-digit Group Code for that group is then entered along with the term and its display using the Vocabulary Development Form. (See **Figure VIII-1-8** of this section.)

4. Scope Notes

a. General

A Scope Note is a brief statement (370 character limit, including intervening blanks) of the intended usage of a Descriptor. It may be used to clarify an ambiguous term or to restrict the usage of a term.

Scope Notes may include all alphabetical, numerical, and special characters within the limits of ERIC character availability, except for the semicolon (;). The semicolon is used in ERIC as a subfield delimiter.

Scope Notes may be definitional, instructional, or both. As definitions, Scope Notes define terms for the purposes of their use in ERIC indexing. In a broader sense, definitional Scope Notes are, therefore, guides to what will be retrieved by searching on a Descriptor.

Instructional Scope Notes direct the user to other terms (Descriptors and/or Identifiers), indicate proper coordinations, provide historical notes on changes in usage or reference structure, or otherwise guide and explain preferred usage for both indexing and retrieval.

b. Definitional Scope Notes

Definitional Scope Notes are used in the *Thesaurus* for the following categories of Descriptors:

- Fundamental concepts appearing both by themselves and as components of precoordinated Descriptors.

```
ABILITY                                      CHANGE

 SN    THE DEGREE OF ACTUAL POWER             SN    ACT OR PROCESS OF ALTERING,
       PRESENT IN AN ORGANISM OR                    MODIFYING, TRANSFORMING,
       SYSTEM TO PERFORM A GIVEN                    SUBSTITUTING, OR OTHERWISE MAKING
       PHYSICAL OR MENTAL ACT                       OR BECOMING DIFFERENT -- INCLUDES
       (NOTE: USE A MORE SPECIFIC                   DEVIATION FROM ESTABLISHED
       TERM IF POSSIBLE)                            CHARACTER, CONDITION, SEQUENCE, OR
                                                    DIRECTION (NOTE: DO NOT CONFUSE
                                                    WITH "DEVELOPMENT," WHICH REFERS
                                                    TO SEQUENTIAL, PROGRESSIVE CHANGES
                                                    -- USE A MORE SPECIFIC TERM IF
                                                    POSSIBLE)
```

- Homographs.

```
FREE SCHOOLS

 SN    ALTERNATIVE SCHOOLS OFFERING A
       COMPLETELY VOLUNTARISTIC
       FRAMEWORK, INCLUDING AN
       UNSTRUCTURED CURRICULUM AND A
       SPONTANEOUS LEARNING
       ENVIRONMENT -- STUDENTS ARE
       FREE TO SELECT WHAT TO LEARN,
       WITH WHOM, WHEN, AND HOW --
       GRADES, COMPETITION, AND
       COMPARISONS BETWEEN
       INDIVIDUALS ARE DISCARDED
       (NOTE: DO NOT CONFUSE WITH
       "FREE EDUCATION" OR "FREEDOM
       SCHOOLS")
```

- Descriptors containing words that may be ambiguous in some contexts.

LANGUAGE HANDICAPS

SN RECEPTIVE OR EXPRESSIVE LANGUAGE DISABILITIES (NOTE: USE "LEARNING DISABILITIES" IF THE DISABILITY IS BEING CONSIDERED IN AN EDUCATIONAL SETTING -- USE "SPEECH HANDICAPS" FOR IMPAIRMENTS OF THE PERIPHERAL SPEECH MECHANISMS)

SATELLITE FACILITIES

SN SUBSIDIARY FACILITIES THAT MAY BE SOME DISTANCE FROM THE FACILITY OR INSTITUTION TO WHICH THEY ARE ADMINISTRATIVELY RELATED

- Descriptors that include words that experience with the "terminology terrain" of education has shown are near-synonyms.

HUMAN RESOURCES

SN PEOPLE WHO CAN BE DRAWN UPON FOR THEIR KNOWLEDGE, SKILLS, OR PRODUCTIVE CAPACITIES (NOTE: DO NOT CONFUSE WITH "HUMAN CAPITAL")

INDIVIDUALIZED EDUCATION PROGRAMS

SN EDUCATIONAL PROGRAMS FOR INDIVIDUAL STUDENTS, EACH GEARED TO THE PARTICULAR STUDENT'S NEEDS AND CONDUCTED IN ACCORDANCE WITH A WRITTEN PLAN AGREED ON BETWEEN THE STUDENT (AND/OR PARENTS) AND SCHOOL OFFICIALS -- IEP'S WERE ORIGINALLY CONCEIVED FOR USE IN EDUCATING HANDICAPPED CHILDREN AND WERE GRADUALLY EXPANDED TO INCLUDE ALL SPECIAL NEEDS GROUPS

- Terms that have a specialized, uncommon meaning in ERIC usage.

LABORATORY TRAINING

SN METHOD OF TRAINING DESIGNED TO FACILITATE SELF INSIGHT, PROCESS AWARENESS, INTERPERSONAL COMPETENCE, AND DYNAMICS OF CHANGE

MAINSTREAMING

SN PROGRESSIVELY INCLUDING AND MAINTAINING EXCEPTIONAL STUDENTS (DISABLED OR GIFTED) IN CLASSES AND SCHOOLS WITH REGULAR OR NORMAL STUDENTS, WITH STEPS TAKEN TO SEE THAT SPECIAL NEEDS ARE SATISFIED WITHIN THIS ARRANGEMENT

- Terms generally not used in common discourse (even if commonly used in the literature).

NEONATES

SN AGED BIRTH TO APPROXIMATELY 1 MONTH (NOTE: ADDED MAR89 TO LIST OF AGE LEVELING DESCRIPTORS -- PRIOR TO THAT, THIS CONCEPT WAS FREQUENTLY INDEXED BY "INFANTS")

SOCIOMETRIC TECHNIQUES

SN PROCEDURES USED TO IDENTIFY THE PREFERENCES, LIKES, OR DISLIKES OF THE MEMBERS OF A GROUP WITH RESPECT TO EACH OTHER, AS WELL AS TO IDENTIFY VARIOUS PATTERNS OF GROUP STRUCTURE OR INTERACTION

- Technical terms (even if commonly known among the relevant subject experts).

GENERATIVE PHONOLOGY

SN THEORY OR SYSTEM OF RULES WHICH DESCRIBES OR PREDICTS WELL-FORMED PHONOLOGICAL OUTPUTS, AND IS USED TO EXPRESS THE ABILITY OF SPEAKERS TO PRODUCE THE SOUNDS OF THEIR NATIVE LANGUAGE

MISCUE ANALYSIS

SN EXAMINATION AND INTERPRETATION OF OBSERVED RESPONSES IN ORAL READING WHICH DO NOT MATCH EXPECTED RESPONSES, AS A TECHNIQUE FOR MEASURING THE LEARNER'S CONTROL OF THE READING PROCESS

- Terms requiring historical notes, instructions for coordination with or reference to other Descriptors or Identifiers, or otherwise requiring explanation of usage.

ACCESSIBILITY (FOR DISABLED)

SN CHARACTERISTICS OF FACILITIES, PROGRAMS, AND SERVICES THAT ALLOW THEM TO BE ENTERED OR USED BY INDIVIDUALS DESPITE VISUAL, HEARING, MOBILITY, OR OTHER IMPAIRMENTS (NOTE: FOR PHYSICAL ACCESS, COORDINATE WITH "PHYSICAL MOBILITY" OR "VISUALLY HANDICAPPED MOBILITY" -- PRIOR TO JUN80, SEE ALSO "ARCHITECTURAL BARRIERS")

FUND RAISING

SN IDENTIFYING, SOLICITING, ACQUIRING, AND CULTIVATING FINANCIAL RESOURCES (NOTE: PRIOR TO FEB78, THE INSTRUCTION "FUND RAISING, USE FINANCIAL SUPPORT" WAS CARRIED IN THE THESAURUS)

RELATIONSHIP

SN TYPE OR MODE OF ASSOCIATION BETWEEN OR AMONG PHYSICALLY EXISTING ENTITIES, E.G., PEOPLE, INSTITUTIONS, OBJECTS (NOTE: USE A MORE SPECIFIC TERM IF POSSIBLE -- DO NOT CONFUSE WITH "CORRELATION" -- PRIOR TO MAR80, THE USE OF THIS TERM WAS NOT RESTRICTED BY A SCOPE NOTE)

SOCIAL WELFARE (1966 1980)

SN INVALID DESCRIPTOR -- USED FOR WELL-BEING AND VARIOUS TYPES OF SOCIAL SERVICES -- USE "WELL BEING" FOR FORMER CONCEPT, "WELFARE SERVICES" FOR ORGANIZED ASSISTANCE TO THE DISADVANTAGED, AND "SOCIAL SERVICES" OR OTHER APPROPRIATE TERMS FOR SOCIAL SERVICES PROVIDED TO THE GENERAL POPULATION

c. Instructional Scope Notes

Instructional Scope Notes are best illustrated by providing a series of examples of their major types.

(1) "USE ANOTHER TERM..."

CAREER OPPORTUNITIES (1966 1980)

SN INVALID DESCRIPTOR -- USED INCONSISTENTLY IN INDEXING -- USE "CAREERS," AND, IF APPROPRIATE, "EMPLOYMENT OPPORTUNITIES"

EDUCATIONAL FINANCE

SN ANY ASPECT OF RAISING AND SPENDING REVENUE FOR EDUCATIONAL PURPOSES (NOTE: USE A MORE PRECISE TERM IF POSSIBLE)

(the phrase "use a more precise term if possible" is used when advising the indexer to use a less general term even though no specific Narrower Terms are cited)

ORAL READING

SN THE ACT OF READING ALOUD, OFTEN USED TO DEVELOP OR TEST READING SKILLS (NOTE: USE "READING ALOUD TO OTHERS" WHEN THE PURPOSE OF ORAL READING IS TO INFORM OR ENTERTAIN A LISTENER OR GROUP OF LISTENERS)

PROBLEMS

SN DIFFICULTIES OR OBSTACLES NOT EASILY OVERCOME (NOTE: USE A MORE SPECIFIC TERM IF POSSIBLE)

(the phrase "use a more specific term if possible" is used when advising use of a Narrower Term)

SATELLITES (AEROSPACE)

SN (NOTE: IF APPLICABLE, USE THE MORE SPECIFIC TERM "COMMUNICATIONS SATELLITES")

(i.e., don't overlook the one Narrower Term that's available)

(2) "SEE..., SEE ALSO..., FOR...SEE"

INTERNATIONAL STUDIES

SN MULTIDISCIPLINARY FIELD OF INQUIRY CONCERNED WITH ANALYZING SOCIAL PHENOMENA THAT OCCUR WITHIN, BETWEEN, AND TRANSCENDING NATIONALLY ORGANIZED POLITICS -- COMMONLY IDENTIFIED SUBFIELDS ARE "INTERNATIONAL POLITICS," "FOREIGN POLICY," "INTERNATIONAL LAW," "INTERNATIONAL ORGANIZATION," "INTERNATIONAL ECONOMICS," AND "COMPARATIVE AREA STUDIES"

(reference is made to other subject areas without citing specific Descriptors)

INVENTIONS

SN ORIGINAL PRODUCTS OR PROCESSES (THINGS NOT PREVIOUSLY EXISTING) DEVELOPED BY CREATIVE THOUGHT OR EXPERIMENTATION -- (NOTE: FOR "DISCOVERIES," SEE THE DESCRIPTOR "DISCOVERY PROCESSES")

PHARMACY

SN THE ART OR PRACTICE OF PREPARING, PRESERVING, COMPOUNDING, AND DISPENSING DRUGS (NOTE: SEE ALSO "PHARMACOLOGY")

PRESSURE (1970 1980)

SN INVALID DESCRIPTOR -- ORIGINALLY INTENDED AS A PHYSICAL SCIENCE TERM BUT USED INCONSISTENTLY FOR SOCIAL PRESSURE, PSYCHOLOGICAL STRESS, ETC., AS WELL AS PHYSICAL PRESSURE -- SEE SUCH DESCRIPTORS AS "PRESSURE (PHYSICS)," "POLITICAL INFLUENCES," "SOCIAL INFLUENCES," AND "STRESS VARIABLES"

UNCOMMONLY TAUGHT LANGUAGES

SN LANGUAGES NOT GENERALLY OFFERED FOR INSTRUCTION IN THE UNITED STATES EDUCATIONAL SYSTEM (NOTE: ALSO SEE THE SPECIFIC LANGUAGE, E.G., TURKISH, OR THE LANGUAGE FAMILY, E.G., URALIC ALTAIC LANGUAGES)

(3) "SEE ALSO...[IDENTIFIER]"

EQUIVALENCY TESTS

SN TESTS TO MEASURE THE EXTENT TO WHICH PREVIOUS SCHOOLING, KNOWLEDGE, OR EXPERIENCE SATISFIES COURSE OR JOB REQUIREMENTS (NOTE: SEE ALSO THE IDENTIFIER "GENERAL EDUCATIONAL DEVELOPMENT TESTS" -- PRIOR TO SEP77 AND MAR80 RESPECTIVELY, THE INSTRUCTIONS "GED TESTS, USE EQUIVALENCY TESTS" AND "PROFICIENCY EXAMINATIONS, USE EQUIVALENCY TESTS" WERE CARRIED IN THE THESAURUS)

(4) "COORDINATE WITH..., COORDINATE OTHER TERMS..., USE WITH..., COORDINATE WITH [IDENTIFIERS]"

FOREIGN CULTURE

SN CULTURE REGARDED AS FOREIGN FROM THE PERSPECTIVE OF THE DOCUMENT OR JOURNAL ARTICLE (NOTE: USE MAJOR GEOGRAPHIC IDENTIFIERS TO IDENTIFY THE FOREIGN CULTURE, AND MINOR GEOGRAPHIC IDENTIFIERS TO IDENTIFY THE NATIVE CULTURE -- PRIOR TO MAR80, THIS TERM WAS NOT RESTRICTED BY A SCOPE NOTE AND CARRIED NO SPECIAL INSTRUCTION)

HEARINGS

SN SESSIONS IN WHICH WITNESSES ARE HEARD AND TESTIMONY IS RECORDED (NOTE: FOR U.S. CONGRESSIONAL HEARINGS, COORDINATE "HEARINGS" WITH SUCH IDENTIFIERS AS "CONGRESS," "CONGRESS 95th," ETC.)

LANGUAGE TESTS

SN TESTS TO MEASURE PROFICIENCY, DIAGNOSE STRENGTHS AND WEAKNESSES, OR PREDICT FUTURE PERFORMANCE IN A NATIVE OR FOREIGN LANGUAGE (NOTE: FOR FOREIGN LANGUAGE TESTS, COORDINATE THIS TERM WITH "SECOND LANGUAGE LEARNING," AND, WHEN APPROPRIATE, THE LANGUAGE)

MEDICAL RECORD ADMINISTRATORS

SN INDIVIDUALS WHO PLAN, DEVELOP, AND ADMINISTER MEDICAL RECORD SYSTEMS FOR HOSPITALS, CLINICS, HEALTH CENTERS, ETC. (NOTE: FOR LIBRARIANS IN MEDICAL LIBRARIES, COORDINATE "LIBRARIANS" AND "MEDICAL LIBRARIES" -- FOR LIBRARIANS WHO ARE DIRECTLY INVOLVED IN PATIENT CARE, USE THE IDENTIFIER "CLINICAL MEDICAL LIBRARIANS")

(5) "USE FOR..."

SEX FAIRNESS

SN THE CORRECTION OF SEX BIAS OR DISCRIMINATION (NOTE: USE FOR DESCRIPTIONS OF MATERIALS, PROCEDURES, ACTIVITIES, OR PROGRAMS THAT TREAT THE SEXES EQUITABLY)

(6) "DO NOT USE FOR..."

READING DIFFICULTIES

SN PROBLEMS IN READING, CAUSED EITHER BY DISABILITIES ASSOCIATED WITH PSYCHOLOGICAL PROCESSES OR BY SUCH FACTORS AS PHYSICAL OR SENSORY HANDICAPS, CULTURAL BACKGROUND, LOW ABILITY, ETC. (NOTE: DO NOT USE FOR "READABILITY" -- THE PREVIOUS TERM "READING DIFFICULTY" WAS NOT SCOPED AND WAS OFTEN CONFUSED WITH "READABILITY")

(7) "DO NOT CONFUSE WITH..."

PROGRAM DEVELOPMENT

SN PROCESS OF FORMULATING A SCHEME, DEVISING PROCEDURES, OR PLANNING ACTIVITIES WITH REGARD TO SPECIFIC PROGRAM OBJECTIVES (NOTE: DO NOT CONFUSE WITH "PROGRAM DESIGN" OR "PROGRAM IMPLEMENTATION" -- PRIOR TO MAR80, THE USE OF THIS TERM WAS NOT RESTRICTED BY A SCOPE NOTE)

(8) "SEE.../USE..." Other Sections of the *Thesaurus*

CATALOGS

SN (NOTE: USE A MORE SPECIFIC TERM IF POSSIBLE -- SEE ALSO "REFERENCE MATERIALS" HIERARCHY FOR MORE PRECISE TERMINOLOGY)

(refers to Hierarchical Display)

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TEACHERS

SN (NOTE: SEE "FACULTY" FOR OTHER SPECIFIC TERMINOLOGY RELATED TO "TEACHERS")

(refers to another term and all its cross-references in the Alphabetical Display)

UNIVERSITIES

SN DEGREE-GRANTING INSTITUTIONS OF HIGHER EDUCATION THAT TYPICALLY INCLUDE A LIBERAL ARTS UNDERGRADUATE COLLEGE, A GRADUATE SCHOOL, AND TWO OR MORE UNDERGRADUATE AND GRADUATE PROFESSIONAL SCHOOLS (NOTE: FOR SPECIFIC ASPECTS, USE A "COLLEGE" TERM WHERE A CORRESPONDING "UNIVERSITY" TERM IS NOT AVAILABLE)

(refers to the entire range of terms having the same word---thus, the Rotated Display)

d. Historical Notes

(1) Previous UF Established as Main Term

DAY CARE CENTERS

SN PROFESSIONALLY RUN FACILITIES THAT CARE FOR GROUPS OF CHILDREN ON A PARTIAL OR FULL DAY BASIS (NOTE: PRIOR TO MAR80, THE INSTRUCTION "DAY CARE CENTERS, USE DAY CARE SERVICES" WAS CARRIED IN THE THESAURUS)

REDUCTION IN FORCE

SN REDUCTION IN THE TOTAL NUMBER OF PEOPLE EMPLOYED BY AN ORGANIZATION -- INCLUDES SUCH METHODS AS LAYING OFF PERSONNEL, CREATING EARLY RETIREMENT OPTIONS, TRANSFERRING PERSONNEL, AND NOT FILLING OPENINGS CREATED THROUGH NORMAL STAFF ATTRITION (NOTE: PRIOR TO MAR77, THE INSTRUCTION "REDUCTION IN FORCE," USE "JOB LAYOFF" WAS CARRIED IN THE THESAURUS)

(2) Another Descriptor Used Previously for This Concept

COLLEGE SECOND LANGUAGE PROGRAMS

SN (NOTE: PRIOR TO MAR80, THIS CONCEPT WAS INDEXED UNDER "COLLEGE LANGUAGE PROGRAMS")

SCHOOL CATALOGS

SN PUBLICATIONS ISSUED BY SCHOOLS TO PROVIDE INFORMATION ON THEIR COURSES, FACULTY, FACILITIES, ETC. (NOTE: PRIOR TO MAR80, "CATALOGS" WAS USED TO INDEX THIS CONCEPT)

(3) Significant Change in Scope

POSTSECONDARY EDUCATION

SN ALL EDUCATION BEYOND THE SECONDARY LEVEL -- INCLUDES LEARNING ACTIVITIES AND EXPERIENCES BEYOND THE COMPULSORY SCHOOL ATTENDANCE AGE WITH THE EXCEPTION OF ADULT BASIC EDUCATION AND HIGH SCHOOL EQUIVALENCY PROGRAMS (NOTE: APPEARS IN THE LIST OF MANDATORY EDUCATIONAL LEVEL DESCRIPTORS -- BEFORE APR75, RESTRICTED TO EDUCATION BEYOND GRADE 12 AND LESS THAN THE BACCALAUREATE LEVEL)

(4) Previous Usage Has Varied
(Useful for dealing with terms that have been used inconsistently)

FIELD EXPERIENCE PROGRAMS

SN PRACTICAL EXPERIENTIAL LEARNING ACTIVITIES UNDER INSTITUTIONAL OR ORGANIZATIONAL SPONSORSHIP, USUALLY AWAY FROM THE CLASSROOM OR CAMPUS -- ASSOCIATED MOST OFTEN WITH GRADES 10-16, AND CHARACTERIZED AS LESS FORMAL AND CONCENTRATED THAN PROFESSIONAL INTERNSHIP PROGRAMS (NOTE: BEFORE JUN78, THE USE OF THIS TERM WAS NOT RESTRICTED BY A SCOPE NOTE)

(restricts term to one meaning, gives date of restriction)

INEQUALITIES (1970 1980) SN INVALID DESCRIPTOR -- USED INCONSISTENTLY IN INDEXING -- FOR MATHEMATICAL INEQUALITIES, USE "INEQUALITY (MATHEMATICS)" -- FOR EDUCATIONAL INEQUALITIES, USE "EQUAL EDUCATION" -- FOR SOCIAL OR ECONOMIC INEQUALITIES, SEE "DISADVANTAGED" OR DESCRIPTORS RELATING TO SOCIAL, RACE, SEX, OR ETHNIC BIAS OR DISCRIMINATION	(gives alternatives to an ambiguous term that has been made invalid)
PRODUCTIVE THINKING SN CREATIVE THINKING THAT RESULTS IN SOMETHING NEW (NOTE: PRIOR TO MAR80, THE USE OF THIS TERM WAS NOT RESTRICTED BY A SCOPE NOTE)	
SECURITY (PSYCHOLOGY) SN BEING OR FEELING FREE FROM RISK OR UNCERTAINTY (NOTE: THE DESCRIPTOR "SECURITY," WITHOUT THE PARENTHETICAL QUALIFIER, WAS USED FROM 1967 TO MAR78)	(refers to an invalid "dead" term on which this improved term is based)
TELECOURSES SN SEQUENCES OF LESSONS OFFERED OVER TELEVISION FOR CREDIT OR AUDITING PURPOSES (NOTE: FOR COURSES ON THE SUBJECT OF TELEVISION, USE "TELEVISION CURRICULUM" -- PRIOR TO MAR80, THIS TERM DID NOT CARRY A SCOPE NOTE)	(restricts term to one meaning and indicates appropriate term covering alternative meaning)
UNITED STATES HISTORY SN (NOTE: PRIOR TO MAR80, "AMERICAN HISTORY" WAS OCCASIONALLY USED FOR THIS CONCEPT)	

e. Notes Indicating a Range of Possible Applications or Subsumed Concepts

"Includes," "Example," and "Excludes" Scope Notes are useful devices for delineating the range of subject matter, characteristics, attributes, conditions, properties, or settings, found among the usages of a Descriptor.

(1) "INCLUDES..." Scope Notes

AMERICAN INDIANS

SN BOTH NORTH AND SOUTH AMERICAN INDIANS

ANNUAL REPORTS

SN INCLUDES DATA ON PROGRESS, FINANCE, MATERIAL, PERSONNEL, INSTRUCTION, ETC.

ITEM RESPONSE THEORY

SN THE STUDY OF TEST AND ITEM SCORES BASED ON ASSUMPTIONS CONCERNING THE MATHEMATICAL RELATIONSHIP BETWEEN ABILITIES (OR OTHER HYPOTHESIZED TRAITS) AND ITEM RESPONSES (NOTE: "ITEM RESPONSE THEORY" INCLUDES BOTH THE "RASCH MODEL" AND THE "BIRNBAUM MODELS" -- SEE THOSE IDENTIFIERS)

(refers to specific Identifiers that embody the concept)

LANGUAGE MAINTENANCE

SN THE MAINTENANCE OF A GIVEN LANGUAGE RATHER THAN ITS DISPLACEMENT BY ANOTHER LANGUAGE (INCLUDES MAINTAINING THE LANGUAGES OF CULTURAL MINORITY GROUPS THROUGH FAMILY PRACTICES, RITUALS, CONCERTED EDUCATIONAL ENDEAVORS WITH SOCIETY AT LARGE, ETC.)

MECHANICS (PHYSICS)

SN THE SCIENCE THAT DEALS WITH THE EFFECTS OF ENERGY AND FORCE ON THE EQUILIBRIUM, DEFORMATION, OR MOTION OF SOLID, LIQUID, AND GASEOUS BODIES -- INCLUDES BOTH CLASSICAL (NEWTONIAN) AND MODERN (ATOMIC-LEVEL) MECHANICS

NONINSTRUCTIONAL STUDENT COSTS

SN	COSTS MET BY STUDENTS THAT ARE NOT INSTRUCTIONAL COSTS (TUITION, ETC.) BUT ARE NECESSARY IN THE PURSUIT OF AN EDUCATION -- INCLUDES ROOM AND BOARD, TRANSPORTATION EXPENSES, BOOK COSTS, PERSONAL EXPENSES, FOREGONE INCOME, ETC.	(distinguishes the term from its antonym)

PHYSICAL EXAMINATIONS

SN MEDICAL INSPECTIONS OF INDIVIDUALS TO DETERMINE THEIR PHYSICAL CONDITION, INCLUDING THE DETECTION OF PRESENT OR POTENTIAL DYSFUNCTION

(2) "Example" Scope Notes: "E.G.," "SUCH AS...," "AS IN..."

"Includes" and "Example" Scope Notes are similar in that they indicate scope by providing lists of subsumed concepts or by providing examples of possible applications.

ARTIFICIAL LANGUAGES

SN LANGUAGES CREATED FOR INTERNATIONAL COMMUNICATION, E.G., ESPERANTO, INTERLINGUA, NOVIAL, VOLAPUK

ASIAN STUDIES

SN STUDIES, USUALLY INTERDISCIPLINARY IN APPROACH, OF SUCH GEOGRAPHIC AREAS AS ASIATIC RUSSIA, ARMENIA, AZERBAIJAN, BANGLADESH, BHUTAN, CHINA, GEORGIA, KAZAKHSTAN, KIRGIZSTAN, INDIA, INDONESIA, JAPAN, KOREA, MALDIVES, MONGOLIA, NEPAL, PAKISTAN, THE PHILIPPINES, SRI LANKA, TAJIKISTAN, TURKMENISTAN, UZBEKISTAN, AND THE SOUTHEAST ASIAN SUBCONTINENT

DEVELOPMENTAL STAGES

SN NATURAL OR COMMON DIVISIONS OF THE HUMAN DEVELOPMENTAL PROCESS, CHARACTERIZED BY TYPES OF BEHAVIOR (AS IN THE ORAL STAGE), BY BIOLOGICAL PROPERTIES OR MANIFESTATIONS (AS IN THE EMBRYONIC STAGE), OR BY MENTAL PROCESSES (AS IN PIAGET'S "CONCRETE OPERATIONS" STAGE)

ELIGIBILITY

SN QUALIFYING FOR CERTAIN BENEFITS OR SERVICES (E.G., STUDENT ELIGIBILITY FOR FINANCIAL AID, INSTITUTIONAL ELIGIBILITY FOR ACCREDITATION, FAMILY ELIGIBILITY FOR WELFARE ASSISTANCE, EMPLOYEE ELIGIBILITY FOR RETIREMENT)

NEW JOURNALISM

SN REPORTING WHICH COMBINES TRADITIONAL JOURNALISM TECHNIQUES WITH SUCH DEVICES OF FICTION WRITING AS: SCENE BY SCENE RECONSTRUCTION OF SETTINGS, RECORDING OF DIALOGUE, USE OF THIRD PERSON POINT-OF-VIEW, AND EXTENSIVE RECORDING OF EXTERNAL CHARACTERISTICS OF INDIVIDUAL CHARACTERS -- EMPHASIS IS ON CAPTURING THE "CONCRETE REALITY" OR "IMMEDIACY" OF CULTURAL PHENOMENA

(3) "Excludes" Scope Notes: "OTHER THAN...," "RATHER THAN...," "UNLIKE...," and "NOT"

Sometimes it is easier to define a scope by stating what is excluded. This approach can both point to and distinguish from a Descriptor representing the excluded concept.

ABSTRACT REASONING

SN PROCESS OF REACHING CONCLUSIONS THROUGH THE USE OF SYMBOLS OR GENERALIZATIONS RATHER THAN ON CONCRETE FACTUAL INFORMATION

ANALOG COMPUTERS

SN COMPUTERS THAT TRANSLATE PHYSICAL CONDITIONS (FLOW, TEMPERATURE, PRESSURE, ETC.) INTO RELATED MECHANICAL OR ELECTRICAL QUANTITIES (LENGTH, VOLTAGE, CURRENT, ETC.) -- UNLIKE DIGITAL COMPUTERS, WHICH COUNT DISCRETE QUANTITIES, ANALOG COMPUTERS MEASURE CONTINUOUS VARIABLES

INFORMAL ASSESSMENT

SN APPRAISAL OF AN INDIVIDUAL'S OR GROUP'S STATUS OR GROWTH BY MEANS OTHER THAN STANDARDIZED INSTRUMENTS

LOW VISION AIDS

SN LENSES OR DEVICES OTHER THAN CONVENTIONAL EYEGLASSES USED TO IMPROVE VISUAL FUNCTIONING IN THE PARTIALLY SIGHTED

MIDDLE MANAGEMENT

SN THE INTERMEDIATE LEVEL OF MANAGEMENT, EXCLUDING TOP-LEVEL MANAGEMENT ON THE ONE HAND AND FIRST-LEVEL SUPERVISION ON THE OTHER

NONPROFIT ORGANIZATIONS

SN ORGANIZATIONS NOT DESIGNED PRIMARILY TO PAY DIVIDENDS ON INVESTED CAPITAL (NOTE: PRIOR TO DEC77, THE INSTRUCTION "NONPROFIT ORGANIZATIONS, USE VOLUNTARY AGENCIES" WAS CARRIED IN THE THESAURUS)

TORTS

SN PRIVATE OR CIVIL WRONGS, NOT INCLUDING BREACH OF CONTRACT, FOR WHICH PERPETRATORS MAY BE LEGALLY PROSECUTED AND INJURED PARTIES MAY BE COMPENSATED

f. Notes That Slant Meaning or Emphasis in Certain Directions (Without Precluding Other Possibilities)

Words such as "usually" can be important hedges in Scope Notes, avoiding excessively tight definitions. "Usually" and "generally" can also be helpful when definitions supplied by authorities differ or where shifts in meaning have occurred over time.

These qualifiers can be viewed as a continuum from "not-quite-absolute" to "maybe"—

(1) "ALMOST ALWAYS..."

IMMERSION PROGRAMS

SN EDUCATIONAL PROGRAMS IN WHICH ALL CURRICULUM MATERIALS ARE TAUGHT IN A SECOND LANGUAGE, GENERALLY AT THE ELEMENTARY LEVEL AND ALMOST ALWAYS WITHIN THE CONTEXT OF A FIRST LANGUAGE SCHOOL

(2) "ESPECIALLY...," "PARTICULARLY...."

EDUCATIONAL MALPRACTICE

SN WRONGFUL OR NEGLIGENT ACTS ON THE PART OF TEACHERS OR SCHOOLS THAT RESULT (OR MAY RESULT) IN STUDENT DETRIMENTS, ESPECIALLY INCLUDING THE FAILURE OF STUDENTS TO LEARN

PHARMACOLOGY

SN THE SCIENCE OF THE NATURE AND PROPERTIES OF DRUGS, PARTICULARLY THEIR ACTIONS OR EFFECTS (NOTE: SEE ALSO "PHARMACY")

(3) "USUALLY..."

ENDOWMENT FUNDS

SN CAPITAL SUMS SET ASIDE AS SOURCES OF INCOME -- THE PRINCIPAL OF EACH SUM IS USUALLY LEFT INTACT AND INVESTED, WHILE THE INCOME MAY BE EXPENDED

RETRENCHMENT

SN REDUCTION OF COSTS OR EFFORTS, USUALLY AS AN ECONOMIC NECESSITY

(4) "GENERALLY...," "NORMALLY..."

BUILDING SYSTEMS

SN ASSEMBLIES OF BUILDING SUBSYSTEMS AND COMPONENTS (STRUCTURAL AND MECHANICAL), WITH INSTRUCTIONS FOR PUTTING THEM TOGETHER -- NORMALLY THESE COMPONENTS ARE MASS-PRODUCED AND USED FOR SPECIFIC GENERIC PROJECTS IN BUILDING CONSTRUCTION

CURRICULUM

SN PLAN INCORPORATING A STRUCTURED SERIES OF INTENDED LEARNING OUTCOMES AND ASSOCIATED LEARNING EXPERIENCES -- GENERALLY ORGANIZED AS A RELATED COMBINATION OR SERIES OF COURSES (NOTE: USE A MORE SPECIFIC TERM IF POSSIBLE)

LIFETIME SPORTS

SN SPORTS WHERE PARTICIPATION CAN BE CARRIED ON THROUGHOUT ONE'S LIFETIME -- GENERALLY INCLUDES (BUT IS NOT NECESSARILY LIMITED TO) A VARIETY OF INDIVIDUAL AND DUAL SPORTS FOR WHICH FACILITIES ARE WIDELY AVAILABLE, AND BODY CONTACT IS LIMITED OR UNNECESSARY

(5) "FREQUENTLY..."

CAREER EXPLORATION

SN INVESTIGATING OCCUPATIONAL INTEREST AREAS OFTEN THROUGH REAL OR SIMULATED JOB EXPERIENCE -- FREQUENTLY FOUND IN CAREER EDUCATION PROGRAMS FOR GRADES 6 THROUGH 10

(6) "OFTEN..."

CAREER AWARENESS

SN APPRECIATION FOR AND UNDERSTANDING OF THE VARIETY OF TYPES OF CAREERS -- OFTEN REFERS TO THE INITIAL PHASE OF CAREER EDUCATION APPROPRIATE TO THE ELEMENTARY SCHOOL

HANDICRAFTS

SN CREATIVE ACTIVITIES OF MAKING ARTICLES BY HAND, OFTEN WITH THE AID OF SIMPLE TOOLS OR MACHINES -- ALSO, THE HANDIWORKS RESULTING FROM SUCH ACTIVITIES

(7) "SOMETIMES..."

ALTRUISM

SN CONSIDERATION FOR THE WELFARE OF OTHERS, SOMETIMES IN ACCORDANCE WITH AN ETHICAL SYSTEM

COLLEGE GOVERNING COUNCILS

SN ORGANIZATIONS OF FACULTY REPRESENTATIVES, SOMETIMES INCLUDING ADMINISTRATORS AND STUDENTS, THAT CONSIDER ADMINISTRATIVE, ACADEMIC, OR OPERATIONAL POLICIES OF THE INSTITUTION

LABOR EDUCATION

SN EDUCATION AND TRAINING OF WORKERS OFTEN SPONSORED BY LABOR UNIONS AND SOMETIMES IN COOPERATION WITH EDUCATIONAL INSTITUTIONS

(8) "PERHAPS..."

SELF SUPPORTING STUDENTS

SN STUDENTS WHO ARE LEGALLY (OR PERHAPS FINANCIALLY) INDEPENDENT OF THEIR PARENTS OR FORMER GUARDIANS

(9) "EMPHASES ON...," "ATTENTION ON..."

Special features or characteristics can be indicated in a number of ways---

- "WITH EMPHASIS...," "EMPHASIS IS ON..."

COMMUNICATIVE COMPETENCE (LANGUAGES)

SN THE ABILITY TO CONVERSE OR CORRESPOND WITH A NATIVE SPEAKER OF THE TARGET LANGUAGE IN A REAL-LIFE SITUATION, WITH EMPHASIS ON COMMUNICATION OF IDEAS RATHER THAN ON CORRECTNESS OF LANGUAGE FORM

ORIENTEERING

SN THE ACT OR SPORT OF CROSS-COUNTRY NAVIGATION USING A MAP AND COMPASS AS GUIDES -- EMPHASIS IS ON DETERMINING, THEN TAKING, THE SHORTEST AND QUICKEST WAY TO A SPECIFIED DESTINATION

- "WITH ATTENTION TO...," "ATTENTION IS GIVEN TO..."

ANTHROPOLOGICAL LINGUISTICS

SN APPLICATION OF ANTHROPOLOGICAL AND LINGUISTIC TECHNIQUES TO THE STUDY OF SPEECH COMMUNITIES, PARTICULARLY THOSE WITH NO WRITING SYSTEM -- ATTENTION IS GIVEN TO SPECIFIC INTERRELATIONSHIPS IN THE CONCURRENT AND SYSTEMATIC DEVELOPMENT OF CULTURE AND LANGUAGE

- "ASSOCIATED WITH..."

(See FIELD EXPERIENCE PROGRAMS, page VIII-1-56.)

g. Special Problems in Meaning and Usage Treated by Scope Notes

(1) Relational Homographs

"Relational homographs" are those terms whose meaning changes according to the direction of the relationship between the component concepts. Such terms should always be scoped. Whether they should be scoped to exclude one meaning or to include both will depend upon their usage.

Generally, if a relational homograph has been used primarily in only one sense, it should be scoped to exclude the other meaning. It should always be scoped to exclude the other meaning when other Descriptors exist to cover that other meaning. Examples:

COUNSELOR EVALUATION

SN PROCESS OF JUDGING COUNSELOR PERFORMANCE AS RELATED TO ESTABLISHED CRITERIA

EMPLOYEE ATTITUDES

SN ATTITUDES OF, NOT TOWARD, EMPLOYEES

PRIVATE FINANCIAL SUPPORT

SN FINANCIAL AID RECEIVED FROM PRIVATE SOURCES (NOTE: DO NOT CONFUSE WITH "PRIVATE SCHOOL AID")

TEACHER DISCIPLINE

SN DISCIPLINE OF, NOT BY, TEACHERS

TEACHER GUIDANCE

SN GUIDANCE PROVIDED BY TEACHERS (NOTE: PRIOR TO MAR80, THIS TERM WAS NOT SCOPED AND WAS SOMETIMES USED TO INDEX GUIDANCE GIVEN TO TEACHERS)

Only occasionally should a relational homograph be scoped to include both meanings, e.g.,

PUBLIC TELEVISION

SN NON-COMMERCIAL TELEVISION, PUBLICLY OWNED AND OPERATED, THAT IS DEDICATED TO EDUCATIONAL, CULTURAL, AND PUBLIC-SERVICE PROGRAMS

(both by and for the public)

(2) "Double" Scope Notes

Many concepts have two (or more) meanings or uses that are so closely related that they must be considered synonymous from the point of view of retrieval. ADJUSTMENT, for example, is both a condition and a process and is scoped as such. Most of the time such usage can be easily handled in the initial clause of a Scope Note; the *Thesaurus* provides many examples---

"BEING OR FEELING..."
"THE STATE OR QUALITY OF..."
"TRAITS OR QUALITIES..."
"THE ACT OR SPORT OF..."
"THE CONDITION AND PROCESS OF..."

In some cases, however, it is helpful to make the dual role of such concepts more obvious or explicit. This can be done through a "double" (or multiple) Scope Note. The Scope Note for DESIGN illustrates this by including the meaning of the term both as a noun and as a verb:

DESIGN

SN THE PROCESS OF CONCEIVING AND SELECTING THE STRUCTURE, ELEMENTS, ARRANGEMENT, MATERIALS, STEPS, OR PROCEDURES OF SOME ACTIVITY OR THING -- ALSO, THE PLAN, LAYOUT, OR MENTAL SCHEME THAT RESULTS (NOTE: USE A MORE SPECIFIC TERM IF POSSIBLE)

Other "double" Scope Notes show meanings that while separable are so conceptually intertwined that there would be little or no advantage to trying to tease them apart, e.g.,

FISCAL CAPACITY

SN WEALTH OF A GOVERNMENT, INSTITUTION, ORGANIZATION, OR INDIVIDUAL -- ALSO, THE RELATIVE ABILITY TO OBTAIN REVENUE

SOCIAL COGNITION

SN CONCEPTIONS ABOUT INTERPERSONAL AND SOCIAL PHENOMENA (E.G., PERSONS, THE SELF, MOTIVES, FEELINGS, RELATIONS, SOCIAL RULES, SOCIETAL INSTITUTIONS) -- ALSO, COGNITIVE PROCESSES AND SKILLS USED IN SOCIAL INTERACTION (E.G., COMMUNICATION SKILLS, PERSPECTIVE TAKING, EMPATHY)

A frequent need for double Scope Notes is found in the Descriptors representing the various intellectual disciplines, which in ERIC are also curriculum areas:

INTERNATIONAL RELATIONS

SN RELATIONS AMONG POLITICAL UNITS OF NATIONAL RANK -- ALSO, A FIELD OF STUDY (OFTEN CONSIDERED AS A BRANCH OF POLITICAL SCIENCE) DEALING PRIMARILY WITH FOREIGN POLICIES, THE ORGANIZATION AND FUNCTION OF GOVERNMENTAL AGENCIES CONCERNED WITH FOREIGN POLICY, AND THE FACTORS (AS GEOGRAPHY AND ECONOMICS) UNDERLYING FOREIGN POLICY

The meaning of terms may also vary between or among disciplines. These terms may be double-scoped when retrieval is not affected, e.g., when two contexts are so closely related that searchers would usually want them both and when other additional index terms would normally be used to distinguish the contexts. Example:

```
ERROR ANALYSIS (LANGUAGE)

 SN    IN LANGUAGE TEACHING AND TESTING, A
       TECHNIQUE OF MEASURING PROGRESS AND
       OF DEVISING TEACHING METHODS BY
       RECORDING AND CLASSIFYING THE
       MISTAKES MADE BY STUDENTS -- IN
       LINGUISTICS, THE OBSERVATION OF
       ERRORS IN THE SPEECH PROCESS AS A
       MEANS OF UNDERSTANDING THE
       PHONOLOGICAL AND SEMANTIC
       COMPONENTS OF LANGUAGE,
       INTERACTIONAL PROCESSES, AND
       SPEAKERS' DISCOURSE STRATEGIES
```

Also, some terms are used interchangeably in both broad and narrow senses, e.g.,

```
EDUCATIONAL TECHNOLOGY

 SN    SYSTEMATIC IDENTIFICATION,
       DEVELOPMENT, ORGANIZATION, OR
       UTILIZATION OF EDUCATIONAL
       RESOURCES AND/OR THE MANAGEMENT
       OF THESE PROCESSES --
       OCCASIONALLY USED IN A MORE
       LIMITED SENSE TO DESCRIBE THE USE
       OF EQUIPMENT-ORIENTED TECHNIQUES
       OR AUDIOVISUAL AIDS IN
       EDUCATIONAL SETTINGS
```

(3) "Forced" Concepts

Concepts that, in indexing, have been "forced" into being represented by a closely related Descriptor should be established as new Descriptors if the initial Descriptor becomes moderately to well posted or high to moderate search interest develops.

Where the "forced" concept has in the past been represented in the *Thesaurus* by a USE reference, creation of a note linking past with present is appropriate, e.g.,

```
BEHAVIOR MODIFICATION

 SN    ALTERATION OF BEHAVIOR BY THE USE
       OF CONDITIONING TECHNIQUES (NOTE:
       PRIOR TO MAR80, THE INSTRUCTION
       "BEHAVIOR MODIFICATION, USE
       BEHAVIOR CHANGE" WAS CARRIED IN
       THE THESAURUS)
```

When no USE reference is present (or where the word form of the USE reference varies from that selected as the preferred form of the new Descriptor), the historical note linking the term with its prior indexing requires other forms, e.g.,

MULTICULTURAL EDUCATION

SN EDUCATION INVOLVING TWO OR MORE ETHNIC GROUPS AND DESIGNED TO HELP PARTICIPANTS CLARIFY THEIR OWN ETHNIC IDENTITY AND APPRECIATE THAT OF OTHERS, REDUCE PREJUDICE AND STEREOTYPING, AND PROMOTE CULTURAL PLURALISM AND EQUAL PARTICIPATION (NOTE: DO NOT CONFUSE WITH "CROSS CULTURAL TRAINING," WHICH, PRIOR TO JAN79, WAS FREQUENTLY USED FOR "MULTICULTURAL EDUCATION")

Where two concepts have previously been "forced" under one Descriptor as a result of "word indexing" (i.e., indexing strictly by words rather than by the meanings behind them), a reciprocal historical note should be made, e.g.,

FOUNDATION PROGRAMS

SN SYSTEMS WHEREBY STATE FUNDS ARE USED TO SUPPLEMENT LOCAL OR INTERMEDIATE SCHOOL DISTRICT FUNDS FOR ELEMENTARY AND SECONDARY EDUCATION -- A "MINIMUM FOUNDATION" OF FINANCIAL SUPPORT IS USUALLY GUARANTEED REGARDLESS OF THE LOCAL DISTRICT'S ABILITY TO SUPPORT EDUCATION (NOTE: PRIOR TO MAR80, THIS TERM WAS NOT SCOPED AND WAS SOMETIMES USED TO INDEX "PHILANTHROPIC FOUNDATIONS")

PHILANTHROPIC FOUNDATIONS

SN TRUSTS OR CORPORATIONS CREATED FOR CHARITABLE PURPOSES THAT PROVIDE GRANTS OF FUNDS TO FINANCE RESEARCH, SERVICES, FACILITIES, EQUIPMENT, OR LIBRARY RESOURCES (NOTE: PRIOR TO MAR80, THIS CONCEPT WAS OFTEN INDEXED UNDER "FOUNDATION PROGRAMS," WHICH WAS NOT SCOPED)

(4) Mandatory Leveling Terms

Scope Notes must account for Descriptors having any special roles or functions in ERIC indexing. The mandatory educational level Descriptors are intended to serve a "classing" function---to bring together all materials falling within a certain educational range. (See Section VII, item I.3.a.(1) of this manual.)

The use of a limited authority list of educational level terms for this special function is somewhat at variance with the principle of indexing to the level of specificity of the document/article. One effect is their preponderant assignment as minor index terms. They are major index terms only when representing the subject of a document.

Because of their unique status, the mandatory educational level Descriptors are flagged within the body of the *Thesaurus* with a special instruction in the Scope Note, e.g.,

HIGHER EDUCATION

SN ALL EDUCATION BEYOND THE SECONDARY LEVEL LEADING TO A FORMAL DEGREE (NOTE: ALSO APPEARS IN THE LIST OF MANDATORY EDUCATIONAL LEVEL DESCRIPTORS)

(5) Descriptors Corresponding to Publication Type Categories

Certain Descriptors are sometimes used to index document characteristics other than subject content. Among these are the so-called "Publication Type" Descriptors that are frequently used to index document form, e.g., ABSTRACTS, CURRICULUM GUIDES, QUESTIONNAIRES.

Since mid-1974, however, ERIC has provided a special field for Publication Type tags. Wherever there is an exact match between one of the authorized Publication Type categories and a Descriptor, the Descriptor (as of March 1980) has been reserved for use only when indexing document subject, e.g.,

BIBLIOGRAPHIES

SN DESCRIPTIVE LISTS OF BOOKS OR OTHER PRINTED MATERIALS, WHICH ARE WRITTEN BY ONE AUTHOR, DURING ONE PERIOD, ON ONE SUBJECT, PRODUCED BY ONE PRINTER AND/OR PUBLISHER, OR LOCATED IN ONE PLACE (NOTE: CORRESPONDS TO PUBTYPE CODE 131 -- DO NOT USE EXCEPT AS THE SUBJECT OF A DOCUMENT)

DOCTORAL DISSERTATIONS

SN THESES SUBMITTED IN PARTIAL FULFILLMENT OF DOCTORAL DEGREE REQUIREMENTS (NOTE: CORRESPONDS TO PUBTYPE CODE 041 -- DO NOT USE EXCEPT AS THE SUBJECT OF A DOCUMENT)

TESTS

SN DEVICES, PROCEDURES, OR SETS OF ITEMS THAT ARE USED TO MEASURE ABILITY, SKILL, UNDERSTANDING, KNOWLEDGE, OR ACHIEVEMENT (NOTE: USE A MORE SPECIFIC TERM IF POSSIBLE -- THIS BROAD TERM CORRESPONDS TO PUBTYPE CODE 160 AND SHOULD NOT BE USED EXCEPT AS THE SUBJECT OF A DOCUMENT)

The 22 Descriptors so limited are listed in the Introduction to the *Thesaurus* and are discussed in greater detail in Section VII, item I.3.d of this manual.

(6) Ambiguous Usage

Certain ERIC Descriptors have had such inconsistent usage over time as to have little value in retrieval. The postings level of some of these terms may be so large as to make reposting to other, more precise terms impractical.

As such terms are discovered and if it is determined that postings cannot be readily transferred, they are relegated to "dead" term status. In other words, they are qualified in the *Thesaurus* with birth/death dates, along with relatively standardized Scope Notes that lead users to other terminology.

EDUCATIONAL PROGRAMS (1966 1980)

SN INVALID DESCRIPTOR -- USED INCONSISTENTLY IN INDEXING -- COORDINATE MORE SPECIFIC DESCRIPTORS

(very broad term used inconsistently in prior years and therefore with little apparent retrieval value---further study may show that most postings may be purged without loss)

HISTORICAL CRITICISM (1969 1980)

SN INVALID DESCRIPTOR -- ORIGINALLY INTENDED AS A LITERARY TERM, BUT USED INDISCRIMINATELY IN INDEXING -- SEE "LITERARY CRITICISM" AND APPROPRIATE "HISTORY" TERM(S) FOR THIS CONCEPT -- SEE ALSO "LITERARY HISTORY" OR "HISTORIOGRAPHY"

(indiscriminate usage of this term was caused by "word indexing"---postings need to be examined individually to determine potential value)

SELF EVALUATION (1966 1980)

SN INVALID DESCRIPTOR -- USED FOR PERSONAL, ORGANIZATIONAL, OR PROGRAM SELF EVALUATION -- SEE "SELF EVALUATION (INDIVIDUALS)" AND "SELF EVALUATION (GROUPS)" RESPECTIVELY FOR THESE CONCEPTS

(heavily posted term with two meanings, which need to be distinguished---every usage will most likely need to be reposted to one of two preferred Descriptors)

Retrieval considerations occasionally necessitate a cross-reference in the Scope Notes of preferred terms back to "dead" terms. ("Dead" terms carry no standard *Thesaurus* cross-references, i.e., NTs, BTs, and RTs.)

AMERICAN HISTORY (1966 1980)

SN INVALID DESCRIPTOR -- ALTHOUGH SCOPE NOTE REFERRED TO NORTH, SOUTH, AND CENTRAL AMERICA, TERM USED FREQUENTLY FOR U.S. HISTORY -- SEE "NORTH AMERICAN HISTORY," "LATIN AMERICAN HISTORY," OR "UNITED STATES HISTORY"

UNITED STATES HISTORY

SN (NOTE: PRIOR TO MAR80, "AMERICAN HISTORY" WAS OCCASIONALLY USED FOR THIS CONCEPT)

(7) Dates Appearing in Instructional Scope Notes

Dates in instructional Scope Notes reflect the calendar month/year of particular *Thesaurus* updates or changes and do not refer to RIE and CIJE issues. *Thesaurus* updates usually occur from 1 to 2 months in advance of RIE/CIJE issues; however, on occasion, they may occur up to 6 months ahead of these publications. Therefore, searchers must assume that a given change may not have been effective in RIE or CIJE for up to 6 months after a Scope Note's calendar date. For that 6-month period, searchers should consider and employ both the old (pre-change) way of indexing and the new way of indexing.

5. UF (Used For)/USE References

a. General

The UF and USE references are generally employed to solve problems of synonymy occurring in natural language. Terms following the UF notation are synonyms or variant forms of so-called main terms or postable Descriptors. These synonyms or quasi-synonyms, also known as "non-preferred" terms, are not used in indexing or searching; their listing merely provides a pathway to the preferred terms in the *Thesaurus*. They thus serve as the access vocabulary, i.e., they represent various points of entry that users (both indexers and searchers) are likely to try. Ideally, there should be as many entry points for a given concept as there are ways to describe that concept.

The importance of the UF notation extends beyond the clear-cut case of synonymy. The notation can represent the relationship to a Descriptor of a near synonym that has a general conceptual similarity, but that is not a true synonym, and it may also be used to indicate highly specific terms that, for the purposes of storage and retrieval, are indexed under a more general term.

UFs are entered in the *Thesaurus* as cross-references to main terms, e.g.,

LABOR
UF MANPOWER

GRADES (SCHOLASTIC)
UF MARKS (SCHOLASTIC)

For each UF entered in this manner, the ERIC *Thesaurus* software automatically generates a reciprocal USE reference. (USE references cannot be added directly to the *Thesaurus*; they appear only as a reciprocal result of the generation of UFs.) The reciprocals of the above UFs are:

MANPOWER
USE LABOR

MARKS (SCHOLASTIC)
USE GRADES (SCHOLASTIC)

These reciprocals are mandatory. They refer the *Thesaurus* user from a non-postable or non-indexable term to the preferred, indexable term or terms.

b. **Summary of Approved Functions for USE References**

(1) To refer from synonyms and variant word forms to the preferred form established as the main term. "Synonym" must be understood to mean synonymous for the purposes of retrieval in ERIC. Distinctions made in the literature and in authorities are not important if they do not hold up from the point of view of retrieval.

SIGHT
USE VISION

HOKKU
USE HAIKU

SUBJECT ACCESS
USE INDEXING

ABUSED CHILDREN
USE CHILD ABUSE

DEATH EDUCATION
USE DEATH

(2) To refer from a highly specific term to a more general term (posting up), including bringing together the points in a conceptual continuum.

LEGAL SECRETARIES
USE SECRETARIES

GAS WELDING
USE WELDING

EARLY DETECTION
USE IDENTIFICATION

(3) To refer from a commonly accepted acronym or abbreviation to its full form.

ITA
USE INITIAL TEACHING ALPHABET

LRC
USE LEARNING RESOURCES CENTERS

(4) To refer from a colloquial term to its scientific or technical equivalent, or from a scientific or technical term to its commonly used equivalent.

CROSS EYES
USE STRABISMUS

CYESIS
USE PREGNANCY

(5) To refer from older to current terminology.

NEGROES (1966 1977)
USE BLACKS

(6) To refer from an antonym when distinctions between opposites are determined to be unimportant for ERIC retrieval.

DEHUMANIZATION
USE HUMANIZATION

MALNUTRITION
USE NUTRITION

(7) To prescribe simultaneous use of more than one term to express a concept.

```
FATHER ROLE
 USE    FATHERS
 and    PARENT ROLE
```

(8) To refer from a deleted main term to the main term(s) to which the older postings have been transferred.

```
COLLECTIVE NEGOTIATION (1967
1977)
 USE    COLLECTIVE BARGAINING
```

c. Rules for USE References

The phrase "USE reference" and the abbreviation "UF" represent reciprocal references to and from the same entity, a non-postable *Thesaurus* term, and the two are often used interchangeably in the following discussion, depending on the point being made.

UF construction follows the rules for the construction of main terms (see item D.2.c of this section), including:

- UFs are limited to 50 characters, including blanks.
- Only noun and noun phrases should be used for UFs.
- Parentheses ( ) are the only punctuation allowed in UFs.

The following additional rules also apply:

(1) UFs may refer laterally or upward, but never downward, i.e., never from a broader concept to a narrower, more specific concept.

(2) UFs must bear the same relationship to the hierarchy (BTs/NTs) of a main term as does the main term itself---except where a UF, conceptually bearing an RT relationship to the main term, is being treated as synonymous for the purposes of retrieval.

(3) UFs must bear the same relationship to the RTs of the main term as does the main term itself.

(4) UFs are restricted to useful entry points---those for which there is good probability of use.

(5) *All* entry points likely as user approaches to a concept should be included as UFs in the *Thesaurus*.

d. Evaluation and Decision Criteria for USE References

(1) Relationship Between UF and Main Term

The relationship between a UF and its main term should normally be either synonymous or hierarchical.

- Testing for Synonymity

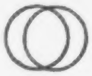
Synonyms can be tested by inserting the words "is always" or "are always" between the two terms. The relationship should be true in both directions. Examples:

[UF] is always [main term]
[main term] is always [UF]

SELF DISCIPLINE	**SELF DISCIPLINE is always SELF CONTROL**
USE SELF CONTROL	**SELF CONTROL is always SELF DISCIPLINE**
MINORITY CULTURE	**MINORITY CULTURE is always MINORITY GROUPS**
USE MINORITY GROUPS	**MINORITY GROUPS are always MINORITY CULTURE**
VILLAGE WORKERS	**VILLAGE WORKERS are always CHANGE AGENTS**
USE CHANGE AGENTS	**CHANGE AGENTS are always VILLAGE WORKERS**

---- If the test holds true in both directions, the terms are synonymous.

---- If the terms do not meet the test of "always" in both directions, but do meet the test of "usually" or "frequently," they are near-synonyms. Then the criterion is whether they are synonymous for the purposes of retrieval from the ERIC database. For example, SELF DISCIPLINE and SELF CONTROL are not identical, but are very nearly so:



--- If the UF term were also established as a main term, would the postings on the two terms be distinguishable?

--- Would searchers frequently want one concept but not the other?

If the answers to these questions are negative, then the terms are essentially synonymous and the UF term is appropriate.

---- If the two terms meet the test of "always" only in the direction "UF is always main term," then the relationship is hierarchical and legitimate.

---- If the two terms meet the test of "sometimes" in one or both directions, e.g., CHANGE AGENTS are sometimes VILLAGE WORKERS, then there may be a hidden hierarchical relationship that could be expressed in a new pre-coordination: VILLAGE [or rural] CHANGE AGENTS Use CHANGE AGENTS.

- Testing for Hierarchy

Hierarchically related UFs can be similarly tested by inserting the words "kind(s) of" or "specific application of" between the two terms. The relationship will hold true in one direction. Examples:

[UF] are kinds of [main term]
[main term] are kinds of [UF]

GRANDFATHERS USE GRANDPARENTS	**GRANDFATHERS are kinds of GRANDPARENTS (true)** **GRANDPARENTS are kinds of GRANDFATHERS (false)**
FAILURE USE ACADEMIC FAILURE	**FAILURE is a kind of ACADEMIC FAILURE (false)** **ACADEMIC FAILURE is a kind of FAILURE (true)**
GRAIN MARKETING USE GRAINS (FOOD)	**GRAIN MARKETING is a specific application of GRAINS (FOOD) (true)** **GRAINS (FOOD) is a specific application of GRAIN MARKETING (false)**

---- If the test holds true from UF to main term, the relationship is upward and legitimate.

---- If the test holds true from main term to UF, the relationship is downward and violates the rules for UFs. Such errors can be remedied by qualifying the UF, e.g., FAILURE (SCHOLASTIC).

---- If the test does not hold true in either direction, the relationship is an RT relationship and violates the rules. However, it should be remembered that such relationships may exist whenever the concepts are judged to be sufficiently synonymous for searching purposes. (For a brief discussion of these RT relationships, see "Special Problems in Meaning and Usage" below, item "D.5.e.(5).")

(2) Relationship Between UF and Rest of Cross-Reference Structure

The BTs, NTs, and RTs of a main term should normally have the same relationship to a UF of the main term as they do to the main term itself.

Examples:

FILMS

(UFs are appropriate to NTs and BTs)

UF BLACK AND WHITE FILMS
CINEMA
COLOR FILMS
MOTION PICTURES
SILENT FILMS
SOUND FILMS (1966 1980)
NT FOREIGN LANGUAGE FILMS
INSTRUCTIONAL FILMS
KINESCOPE RECORDINGS
SINGLE CONCEPT FILMS
BT MASS MEDIA
NONPRINT MEDIA
VISUAL AIDS
RT AUTEURISM
CAPTIONS
CARTOONS
COPYRIGHTS
DOCUMENTARIES
FILM CRITICISM
FILM INDUSTRY
FILM LIBRARIES
FILM PRODUCTION
FILM STUDY
FILMOGRAPHIES
FILMSTRIPS
LITERARY STYLES
PHOTOGRAPHS
POPULAR CULTURE
REPETITIVE FILM SHOWINGS
THEATER ARTS
TRANSPARENCIES
VIDEOTAPE RECORDINGS

DISARMAMENT

(UFs are appropriate to the RTs)

UF ARMS CONTROL
MULTILATERAL DISARMAMENT
NUCLEAR CONTROL
UNILATERAL DISARMAMENT
RT ARMED FORCES
CONFLICT
INTERNATIONAL RELATIONS
MILITARY SCIENCE
NATIONAL DEFENSE
NUCLEAR WARFARE
PEACE
WAR
WORLD PROBLEMS

(3) Usefulness of UF as an Access Point

The access point provided by the UF should be genuinely useful, i.e.,

- there should be a good possibility that users of the *Thesaurus* might actually approach the concept via the UF's terminology; and
- the UF's terminology should be found in the literature and in relatively common discourse.

Example:

```
FASHION INDUSTRY
   SN  CONCERNED WITH THE DESIGN,
       PRODUCTION, AND MARKETING OF
       CLOTHING
   UF  APPAREL INDUSTRY
       CLOTHING INDUSTRY
       GARMENT INDUSTRY
   BT  INDUSTRY
   RT  CLOTHING
       CLOTHING DESIGN
       CLOTHING INSTRUCTION
       NEEDLE TRADES
       OCCUPATIONAL HOME ECONOMICS
       SERVICE OCCUPATIONS
       SEWING INSTRUCTION
       SEWING MACHINE OPERATORS
       TEXTILES INSTRUCTION
```

(4) Need for UF as an Access Point

The need for additional UFs or access points can be tested as follows:

- Check the *Rotated Display* under the key component words of the main term to see the surrounding "terminology terrain." Determine whether UFs from and to those words point to other words that meet the test for synonymity or near-synonymity. Any identifiable patterns of references not already provided for in the Descriptor's UFs should be added.

In the example below, the adjective "occupational" of the 2-word Descriptor OCCUPATIONAL TESTS is viewed in the context of the *Rotated Display*. Alternative words (such as "JOB," "VOCATIONAL," "CAREER," "EMPLOYMENT") that should be considered as additional access points are easily seen.

ALPHABETICAL DISPLAY

```
OCCUPATIONAL TESTS
   SN TESTS DESIGNED TO PREDICT JOB
      PERFORMANCE BY RECORDING SPECIFIC
      ABILITIES AND INTERESTS THAT
      CORRESPOND WITH THOSE OF PERSONS
      SUCCESSFULLY ENGAGING IN THE
      PARTICULAR FIELD OF WORK (NOTE:
      FOR OCCUPATIONAL INTEREST
      INVENTORIES, USE "INTEREST
```

INVENTORIES")
UF ADMISSION TESTS (OCCUPATIONAL)
EMPLOYMENT TESTS
PERSONNEL TESTS
VOCATIONAL TESTS
NT WORK SAMPLE TESTS
BT TESTS
RT APTITUDE TESTS
ASSESSMENT CENTERS (PERSONNEL)
CAREER COUNSELING
EMPLOYMENT QUALIFICATIONS
INTEREST INVENTORIES
JOB PERFORMANCE
JOB SKILLS
LICENSING EXAMINATIONS (PROFESSIONS)
MATURITY TESTS
PERFORMANCE TESTS
PERSONNEL EVALUATION
PREDICTIVE MEASUREMENT
VOCATIONAL APTITUDE
VOCATIONAL EVALUATION
VOCATIONAL INTERESTS

ROTATED DISPLAY

OCCUPATIONAL ADJUSTMENT Use VOCATIONAL ADJUSTMENT
ADMISSION TESTS (OCCUPATIONAL) Use OCCUPATIONAL TESTS
OCCUPATIONAL ANALYSIS Use JOB ANALYSIS
OCCUPATIONAL ASPIRATION
OCCUPATIONAL ASPIRATION LEVEL Use OCCUPATIONAL ASPIRATION
OCCUPATIONAL AWARENESS Use CAREER AWARENESS
OCCUPATIONAL CHOICE (1966 1980) Use CAREER CHOICE
OCCUPATIONAL CLUSTERS
OCCUPATIONAL COUNSELING Use CAREER COUNSELING
OCCUPATIONAL DISEASES
SUPERVISED OCCUPATIONAL EXPERIENCE (AGRICULTURE)
OCCUPATIONAL EXPLORATION Use CAREER EXPLORATION
OCCUPATIONAL FAMILIES Use OCCUPATIONAL CLUSTERS
OCCUPATIONAL FOLLOWUP Use VOCATIONAL FOLLOWUP
OCCUPATIONAL GUIDANCE (1966 1980) Use CAREER GUIDANCE
OCCUPATIONAL HEALTH Use OCCUPATIONAL SAFETY AND HEALTH
OCCUPATIONAL HOME ECONOMICS
OCCUPATIONAL INFORMATION
OCCUPATIONAL INFORMATION SYSTEMS Use CAREER INFORMATION SYSTEMS
OCCUPATIONAL LEVEL Use EMPLOYMENT LEVEL
OCCUPATIONAL MOBILITY
PROMOTION (OCCUPATIONAL)
OCCUPATIONAL PSYCHOLOGY Use INDUSTRIAL PSYCHOLOGY
OCCUPATIONAL SAFETY AND HEALTH
OCCUPATIONAL SAFETY AND HEALTH STANDARDS Use LABOR STANDARDS and OCCUPATIONAL SAFETY AND HEALTH
OCCUPATIONAL SATISFACTION Use JOB SATISFACTION
OCCUPATIONAL SUCCESSION Use OCCUPATIONAL MOBILITY
OCCUPATIONAL SURVEYS
OCCUPATIONAL TESTS
OCCUPATIONAL THERAPISTS
OCCUPATIONAL THERAPY
OCCUPATIONAL THERAPY ASSISTANTS
OCCUPATIONAL TRAINING Use JOB TRAINING

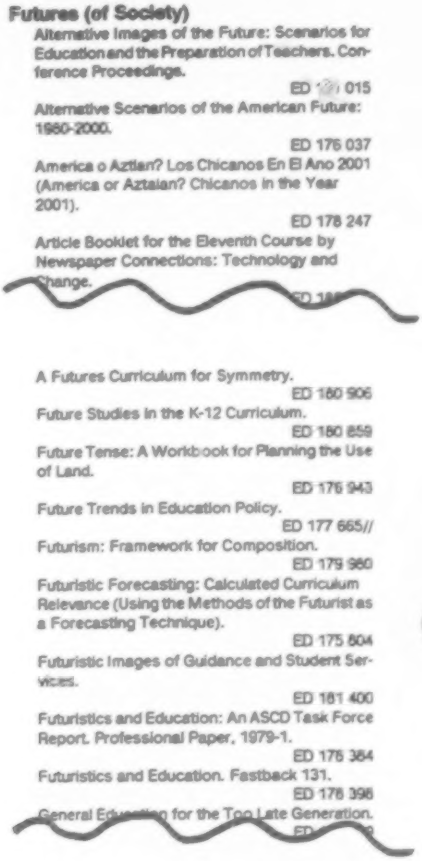
- Make sure that access is provided from important key words in the main term (or perhaps in the Scope Note), e.g.,

```
FEAR OF SUCCESS
  SN NEED TO REFRAIN FROM MAXIMALLY
     UTILIZING ONE'S ABILITIES IN
     ACHIEVEMENT SITUATIONS BECAUSE OF
     EXPECTED NEGATIVE CONSEQUENCES
  UF SUCCESS AVOIDANCE
  BT FEAR
  RT ACHIEVEMENT
     FAILURE
     GOAL ORIENTATION
     INHIBITION
     LOW ACHIEVEMENT
     MOTIVATION
     SELF MOTIVATION
     SEX ROLE
     SUCCESS
     UNDERACHIEVEMENT
```

```
PRETEND PLAY
  SN  PLAY INVOLVING FANTASY OR MAKE
      BELIEVE
  UF  FANTASY PLAY
      MAKE BELIEVE PLAY
      SYMBOLIC PLAY
  BT  PLAY
  RT  BEHAVIOR DEVELOPMENT
      BEHAVIOR PATTERNS
      DRAMATIC PLAY
      FANTASY
      IMAGINATION
      IMITATION
      ROLE PLAYING
```

- Check titles of documents and articles posted to the main term for clues about alternate word forms and terminology.

FUTURES (OF SOCIETY)
UF ALTERNATIVE FUTURES
FUTURE STUDIES
FUTURISM
FUTURISTICS
FUTUROLOGY
RT APPROPRIATE TECHNOLOGY
CULTURE LAG
DECISION MAKING
DELPHI TECHNIQUE
EMERGING OCCUPATIONS
LONG RANGE PLANNING
PLANNING
PREDICTION
PUBLIC POLICY
RELEVANCE (EDUCATION)
REVOLUTION
SCIENCE AND SOCIETY
SOCIAL CHANGE
SOCIAL INDICATORS
TECHNOLOGICAL ADVANCEMENT
TREND ANALYSIS
VALUES
WORLD AFFAIRS



Futures (of Society)
Alternative Images of the Future: Scenarios for Education and the Preparation of Teachers. Conference Proceedings.
ED 1[illegible] 015
Alternative Scenarios of the American Future: 1980-2000.
ED 176 037
America o Aztlan? Los Chicanos En El Ano 2001 (America or Aztalan? Chicanos in the Year 2001).
ED 178 247
Article Booklet for the Eleventh Course by Newspaper Connections: Technology and Change.
ED 18

A Futures Curriculum for Symmetry.
ED 180 906
Future Studies in the K-12 Curriculum.
ED 180 859
Future Tense: A Workbook for Planning the Use of Land.
ED 176 943
Future Trends in Education Policy.
ED 177 665//
Futurism: Framework for Composition.
ED 179 960
Futuristic Forecasting: Calculated Curriculum Relevance (Using the Methods of the Futurist as a Forecasting Technique).
ED 175 804
Futuristic Images of Guidance and Student Services.
ED 181 400
Futuristics and Education: An ASCD Task Force Report. Professional Paper, 1979-1.
ED 176 384
Futuristics and Education. Fastback 131.
ED 176 398
General Education for the Too Late Generation.
ED

- Make sure that access is provided for embedded concepts in any compound words in the main term, e.g., COLLEGE COOPERATION, in the case below:

INTERCOLLEGIATE COOPERATION
SN COOPERATION BETWEEN OR AMONG COLLEGES, UNIVERSITIES, OR PROFESSIONAL SCHOOLS
UF COLLEGE COOPERATION (1966 1980)
INTERCOLLEGIATE ATHLETICS #
INTERCOLLEGIATE PROGRAMS (1967 1980)
BT EDUCATIONAL COOPERATION
INSTITUTIONAL COOPERATION
RT ARTICULATION (EDUCATION)
COLLEGE PLANNING
COLLEGE SCHOOL COOPERATION
COLLEGES
CONSORTIA

e. Special Problems in Meaning and Usage

(1) Filing Order/Filing Distance

The requirements for effective access to the vocabulary vary in different alphabetical sections of the *Thesaurus*. Provision of UFs that have the same first word as the main term is unnecessary if they will file in close proximity to the main term, and if the possibility of additional intervening references and displays appears small. Similarly, several UFs referring to the same Descriptor are redundant if they will file together, whether or not they will appear adjacent to the main term. However, in core areas of the *Thesaurus*, such as the "school" terms, the "student" terms, etc., UFs beginning with the same word, or beginning with the same word as the main term, may nevertheless file at a substantial distance from each other. These references may be vital, e.g.,

SCHOOL PERSONNEL
UF SCHOOL EMPLOYEES
SCHOOL OFFICIALS

A further consideration in determining the usefulness of additional references of this type is the effect of word-by-word filing of the *Thesaurus* Alphabetical Display. In letter-by-letter filing used in ERIC *Thesaurus* editions before 1980, certain USE references would file immediately before or after their respective main terms, and the chances were remote that new entries would fall between them. The following two sets illustrate this situation:

```
AUTO MECHANICS                      SOCIALIZATION
  UF    AUTOMOBILE MECHANICS          UF    SOCIAL LEARNING


AUTOMOBILE MECHANICS                SOCIAL LEARNING
  USE   AUTO MECHANICS                USE   SOCIALIZATION
```

With word-by-word filing, however, many entries now intervene between these sets of terms and the importance of having the USE references is more pronounced.

(2) Error of "Mixed Signals"

Confusion can occur when UFs are considered only from the point of view of the main term. In evaluating UFs and in judging their correctness, it is imperative to consider them not only in the Main Term display but also--

- at the place where they file reciprocally

```
GUIDANCE SPECIALISTS              GUIDANCE WORKERS
 USE    GUIDANCE PERSONNEL         USE    COUNSELORS
```

- under each word in the rotated display

```
TEACHER COMPETENCY                TEACHER QUALITY               TEACHER EFFECTIVENESS
 USE    TEACHER QUALIFICATIONS     USE    TEACHING QUALITY       USE    EFFECTIVE TEACHING
```

The above examples of "mixed signals" existed in the pre-1980 *Thesaurus*.

The situation illustrated by the first example was particularly confusing because COUNSELORS was (and is) a Narrower Term of GUIDANCE PERSONNEL. This error was corrected in three steps:

---Deleting GUIDANCE WORKERS as a UF.

---Clarifying GUIDANCE SPECIALISTS with a double USE reference.

```
GUIDANCE SPECIALISTS
 USE    GUIDANCE PERSONNEL
 and    SPECIALISTS
```

---Adding a historical note to the Scope Note of GUIDANCE PERSONNEL.

```
GUIDANCE PERSONNEL
  SN   PROFESSIONALS ENGAGED IN
       ASSISTING INDIVIDUALS AND GROUPS
       TO DEVELOP REALISTIC AND
       SATISFYING PLANS, GOALS, AND
       ACTIVITIES (NOTE: PRIOR TO MAR80,
       THE INSTRUCTION "GUIDANCE
       WORKERS, USE COUNSELORS" WAS
       CARRIED IN THE THESAURUS)
```

The mixed signals among the above "teacher" term examples were repaired with the following two displays:

```
TEACHER EFFECTIVENESS
  SN   DEGREE TO WHICH TEACHERS ARE
       SUCCESSFUL IN SATISFYING THEIR
       OBJECTIVES, OBLIGATIONS, OR
       FUNCTIONS
  UF   EFFECTIVE TEACHING (1966 1980)
       TEACHER QUALITY
       TEACHING QUALITY (1966 1980)
  BT   TEACHER BEHAVIOR
  RT   ACADEMIC ACHIEVEMENT
       CLINICAL SUPERVISION (OF TEACHERS)
       EDUCATIONAL QUALITY
       EXCELLENCE IN EDUCATION
       INSTRUCTIONAL EFFECTIVENESS
```

```
         INSTRUCTIONAL IMPROVEMENT
         INSTRUCTIONAL INNOVATION
         SCHOOL EFFECTIVENESS
         STUDENT EVALUATION OF TEACHER
           PERFORMANCE
         TEACHER EVALUATION
         TEACHER INFLUENCE
         TEACHER ROLE
         TEACHERS
         TEACHING (OCCUPATION)
         TEACHING MODELS
         TEACHING SKILLS
         TEACHING STYLES
```

```
TEACHER QUALIFICATIONS
   SN    ONE'S EDUCATION, EXPERIENCE, AND
         PHYSICAL, SOCIAL, AND MENTAL
         CHARACTERISTICS THAT DETERMINE
         FITNESS FOR A TEACHING POSITION
   BT    QUALIFICATIONS
   RT    ALTERNATIVE TEACHER CERTIFICATION
         EMPLOYMENT QUALIFICATIONS
         MISASSIGNMENT OF TEACHERS
         TEACHER BACKGROUND
         TEACHER CERTIFICATION
         TEACHER CHARACTERISTICS
         TEACHER EDUCATION
         TEACHER EDUCATION CURRICULUM
         TEACHER EVALUATION
         TEACHER SELECTION
         TEACHERS
         TEACHING (OCCUPATION)
         TEACHING EXPERIENCE
```

(Note: No reference was found to be necessary to the old UF TEACHER COMPETENCY since a postings check showed it to have no impact on the earlier use of TEACHER QUALIFICATIONS.)

(3) Precoordinated Upward UFs

Upward UF references cause no problem as single-word or multiword constructions that directly parallel the words or component concepts of a main term.

```
ADHESIVES
   UF    CEMENTS (ADHESIVES)
         GLUES
         PASTES (ADHESIVES)
         SEALANTS
         STICKERS

NONTRADITIONAL EDUCATION
   SN    EDUCATIONAL PROGRAMS THAT ARE
         OFFERED AS ALTERNATIVES WITHIN OR
         WITHOUT THE FORMAL EDUCATIONAL
         SYSTEM AND PROVIDE INNOVATIVE AND
         FLEXIBLE INSTRUCTION, CURRICULUM,
          GRADING SYSTEMS, OR DEGREE
          REQUIREMENTS
       UF ALTERNATIVE EDUCATION
          ALTERNATIVE SCHOOLS (1972 1980)
          EDUCATIONAL ALTERNATIVES (1974 1980)
          INSTRUCTIONAL ALTERNATIVES
          TEACHING ALTERNATIVES
          TRAINING ALTERNATIVES
```

(Note: The qualifier "adhesives" was necessary in two instances of the first example to avoid so-called "downward" UFs (i.e., from a broader to a narrower concept); downward UFs are serious errors in the "terminology terrain" of a thesaurus.)

However, precoordinated upward UFs that add a new concept, one not directly related to the component concepts of a main term, can cause confusion when they are interpreted too "literally" by indexers and searchers. This problem can best be illustrated with an example.

```
ACADEMIC ENRICHMENT (1966 1980)
  USE ENRICHMENT

ENRICHMENT
  UF  ACADEMIC ENRICHMENT (1966 1980)
      ENRICHMENT EXPERIENCE (1966 1980)
  NT  CULTURAL ENRICHMENT
      CURRICULUM ENRICHMENT
      JOB ENRICHMENT
      LANGUAGE ENRICHMENT
      MATHEMATICAL ENRICHMENT
  RT  ENRICHMENT ACTIVITIES
```

As of 1980, the *Thesaurus* says "ACADEMIC ENRICHMENT, Use ENRICHMENT." (ACADEMIC ENRICHMENT is a former main term.) Beyond the literal command to "use ENRICHMENT," this instruction does two other things:

- It gives the user access to the "terminology terrain" of the word "academic." If one takes the USE reference too literally and uses ENRICHMENT only, access via the word "academic" could be lost. Depending on the document being indexed or the search strategy being formulated, this may or may not be important. Only the indexer or searcher can decide, based upon the particular circumstances of the document being indexed or his/her retrieval needs, whether access via the word "academic" is necessary.

- It leads the user to a display where more specific or precise terminology may be found, including, quite possibly, a more suitable term for the particular document or search strategy. Again, if the user takes the USE reference literally, ENRICHMENT will be used, possibly in lieu of more appropriate terms, e.g., CURRICULUM ENRICHMENT.

(Note: Access under ENRICHMENT is not lost if

CURRICULUM ENRICHMENT is used, certainly not in computerized retrieval with its word searching capability, but neither in manual searching if users are trained to use the *Thesaurus* properly.)

A USE reference specifies that Term "A" is not a postable concept for the ERIC indexes and that Term "B" (and sometimes Term "C") will be used instead, providing there are no contravening considerations. Thus, the indexing or searching process does not necessarily stop with the use or posting of Term "B." Users should remember that the *Thesaurus* is an access vocabulary, and that USE references merely provide a pathway to the most probable term that one might wish to use. Indexing decisions or search strategies should never be based rigidly on a USE reference alone. Before making a final decision, users should examine the surrounding "terminology terrain" and then proceed to the main term display to which a USE reference leads. To do otherwise is to engage in mere "word indexing" and defeats the utility of a structured vocabulary.

(4) Inverted Entries or Term Reversals

An early rule with respect to ERIC *Thesaurus* development specifically prohibited the use of inverted entries in cross-referencing. The reasoning behind the rule was that the Rotated Descriptor Display provides access to all words of a multiword Descriptor.

A plethora of inverted entries, of course, would be undesirable, and over the years, this rule has been followed with only rare exceptions. Some examples of inverted entries that presently exist in the *Thesaurus* are:

```
BATTERIES (ELECTRIC)        DIAGNOSIS               DISCRIMINATION (SOCIAL)
 USE    ELECTRIC BATTERIES   USE    IDENTIFICATION   USE    SOCIAL DISCRIMINATION

                            DIAGNOSIS (CLINICAL)
                             USE    CLINICAL DIAGNOSIS

                            DIAGNOSIS (EDUCATIONAL)
                             USE    EDUCATIONAL DIAGNOSIS
```

Justification for the "batteries" and "discrimination" reversals is a need for access at the most logical, or commonly thought of, point of entry. Support for the "diagnosis" entries is based on a perceived need to lessen indexer/searcher confusion and eliminate any possibility of term misuse.

It should be emphasized, however, that inverted entries are generally discouraged and that special demonstrable circumstances are necessary to justify them.

(5) Related-Term Type of Relationship Between a Main Term and the UF Leading To It

A main term and a UF leading to it may have the same conceptual relationship between them as two Related Terms (RTs).

Such relationships will often be precoordinated upward UFs. In the case of "GRAIN MARKETING, Use GRAINS (FOOD)," the UF is hierarchically related to the main term MARKETING and has an RT relationship to GRAINS (FOOD). The usefulness of the UF GRAIN MARKETING is strictly in preventing the concept's use as an Identifier and requiring that the more general term be used. Confusion over what to do about "marketing" in this instance can be avoided if one remembers to not take the UF "literally." MARKETING or another term to convey this aspect of the document can and should be used also, if warranted.

RT-type UF/main term relationships between "population" concepts and "condition" concepts may cause confusion as well. For instance, the *Thesaurus* instruction "VISUALLY HANDICAPPED, Use VISUAL IMPAIRMENTS" may be difficult to accept. However, experience shows that any differences that may exist between such terms cannot be consistently articulated in the indexing process.

(6) Colloquialisms

Slang and colloquialisms are ordinarily not used as UFs, particularly when the terminology of the main term is commonly known and widely used, e.g.,

MARY JANE (DRUG)
  USE MARIJUANA

STRAW BOSSES
  USE CREW LEADERS

Alternatives to some colloquial expressions, however, may not come readily to mind. Such expressions may be needed for additional access, e.g.,

BREADWINNERS
  USE HEADS OF HOUSEHOLDS

(7) Transferred Descriptors

A former indexable or main term that has been downgraded to the status of a UF term is accompanied by a "life span" notation in parentheses, e.g., "(1966 1974)." The life span notation indicates the span of time in which a term was used in indexing and is helpful in retrospectively searching older manual indexes and computer files. Transferred terms with end dates of 1980 and earlier no longer appear in the ERIC vendor files, i.e., their postings have been transferred to the preferred USE term(s). Transferred terms with end dates after 1980, however, have not been completely updated, and both old and new terms ordinarily must be searched in order to gather all postings. (The last complete reload of ERIC by the major database vendors was in December 1980.) There are approximately 840 terms in the "1980 and earlier" group as opposed to fewer than 100 in the "after-1980" group. The "transferred, but still searchable" group of terms is listed in commercially published editions of the ERIC *Thesaurus* (see "Transferred Descriptors" in the Table of Contents).

Examples:

`STUDENT TESTING (1966 1980)` `USE EDUCATIONAL TESTING`	(Transfer accomplished during the last vendor reload [Dec80]; only the current term needs to be searched.)
`VIDEODISC RECORDINGS (1979 1986)` `USE VIDEODISKS`	(Transfer occurred since the last vendor reload [Dec80]); both old and new terms should be searched.)

An additional parenthetical qualifier accompanies certain transferred Descriptors that, because of their unusual original wording, would appear out-of-place or even erroneous if not qualified in their new roles as UFs.

Example:

```
PROGRESSIVE RETARDATION (1966 1980)
(IN SCHOOL)
 USE    EDUCATIONALLY DISADVANTAGED
```

Transferred Descriptors with postings split two ways are qualified in the same manner.

Example:

```
PAINTING (1966 1980) (ARTISTIC)          PAINTING (1966 1980) (INDUSTRIAL)
 USE    PAINTING (VISUAL ARTS)            USE    PAINTING (INDUSTRIAL ARTS)
```

(This situation is not to be confused with Descriptors whose postings were each transferred to two other Descriptors and are now "double UFs"---See next section.) The qualifiers in the above examples were not attached to the original Descriptors; therefore, they follow the life span notations. Qualifiers that were part of original Descriptors precede the life span notations.

Example:

```
CARDIAC (PERSON) (1968 1980)
 USE    HEART DISORDERS
```

(8) Multiple UFs

The multiple USE reference capability allows for the specification of a concept by up to five term coordinations.

A pound sign (#) following a UF term signifies that two or more main terms are to be used in coordination to represent that UF.

Example:

```
ATHLETICS
  SN SPORTS, GAMES, OR PHYSICAL
     CONTESTS OFTEN ENGAGED IN
     COMPETITIVELY
  UF ATHLETIC ACTIVITIES (1966 1974)
     ATHLETIC PROGRAMS (1966 1980)
     SPORTS
     SPORTS NEWS #
     SPORTS REPORTING #

COLLEGE ATHLETICS
  UF INTERCOLLEGIATE ATHLETICS #
```

A footnote warning users that at least two terms are required to retrieve these flagged concepts appears on every page of the *Thesaurus* Alphabetical Display. This footnote reads as follows:

# = TWO OR MORE DESCRIPTORS ARE USED TO REPRESENT THIS TERM.
THE TERM'S MAIN ENTRY SHOWS THE APPROPRIATE COORDINATION.

To determine the proper coordination for a multiple UF, the user needs only to consult the UF's reciprocal USE reference (i.e., main entry) in the Alphabetical Display. The reciprocals or main entries for the three multiple UFs given above would be:

```
INTERCOLLEGIATE ATHLETICS              SPORTS NEWS           SPORTS REPORTING
 USE    COLLEGE ATHLETICS               USE    ATHLETICS       USE    ATHLETICS
 and    INTERCOLLEGIATE COOPERATION     and    NEWS MEDIA      and    NEWS REPORTING
```

Multiple UFs should not be used for concepts having high search interest. Direct and specific Descriptors are most necessary and desirable in areas of high search interest, to ensure ease and precision for manual retrieval.

Many existing multiple UFs reflect former precoordinated main terms that had low utility and whose postings were transferred to two broader terms.

Example:

```
REMEDIAL ARITHMETIC (1966 1980)
 USE    ARITHMETIC
 and    REMEDIAL MATHEMATICS
```

As explained in the immediately preceding discussion on "Transferred Descriptors," terms like the above with end dates of 1980 or earlier have been replaced by their preferred Descriptors and are no longer computer-searchable; alternatively, those with end dates of 1981 or later may still exist in the database and, therefore, need to be included in comprehensive search strategies.

Users should be cautioned to be flexible in their use and interpretation of multiple UFs. Like other UFs, multiple UFs can sometimes be taken too "literally." For instance, one of the multiple UFs illustrated above says:

SPORTS NEWS, Use ATHLETICS and NEWS MEDIA

ATHLETICS has many narrower terms or NTs, one of which is FOOTBALL. NEWS MEDIA also has some NTs, including NEWSPAPERS. Remembering ERIC's policy to index to the most specific available Descriptor, the concept "football news" should obviously be indexed with FOOTBALL and NEWS MEDIA, not also with ATHLETICS. For the even narrower concept "football newspapers," NEWSPAPERS should be used, not NEWS MEDIA.

(9) Disallowance of UFs as Postable Terms

UFs are never to be used as index postings in ERIC records, either in the Descriptor field or as Identifiers.

Any indexer or user who disagrees with a UF, and can see a need to post it, should request a *Thesaurus* change via the procedures in item E.5.d. Reasons for requesting such a change might include the following:

- A broad Descriptor is continually being posted for documents that really pertain to the more specific subject of a UF.
- An outmoded Descriptor is being posted for more contemporary terminology represented by a UF.
- A Descriptor is being misused for different subjects because of a broad or otherwise inappropriate UF.

All errant UFs should, of course, be removed from the *Thesaurus*. UFs so removed would then be acceptable for posting.

6. Narrower Terms/Broader Terms

a. General

Narrower Term/Broader Term (NT/BT) notations are used to indicate hierarchical relationships among Descriptors. Because they are Descriptors, NTs and BTs are indexable and searchable. More than any other feature, hierarchies distinguish a systematic thesaurus from other organized lists of terms. They provide the capability for fine-tuning the indexing and searching processes to the most appropriate level of subject specificity.

Hierarchical relationships are structured using the taxonomic concept of "class membership." Placement of terms within hierarchies helps to define the terms and limits their possible indexing and searching applications.

Narrower Terms represent concepts totally included in the broader class listed above them in the hierarchy.

```
Example:  READING
            NT ORAL READING
               SILENT READING
```

Broader Terms include as a subclass each concept represented by a Narrower Term in the hierarchy.

```
Examples: ORAL READING
            BT READING

          SILENT READING
            BT READING
```

BTs and NTs have a mandatory reciprocal relationship. Sometimes a term may have more than one Broader Term.

```
Example:  MIGRANT CHILDREN
            BT CHILDREN
               MIGRANTS
```

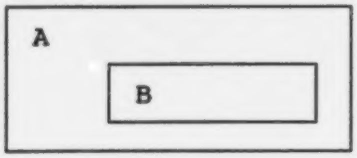
b. Generic Structuring

Generic structuring involves organizing Descriptors into "hierarchical families." A single hierarchical family is made up of a class or category of concepts and each of its members. Thus, the relationship is the same as that between a thing and its types, or, in zoological terms, a genus and its member species. In ERIC, and many other contemporary information systems, this is the BT/NT relationship.

(1) BT/NT Relationship

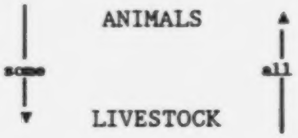
ERIC Descriptors are names (or tags) for classes of information, and a NARROWER TERM of a given Descriptor is simply a subclass within the scope of that given Descriptor, as illustrated below:

Example 1:



If A and B represent terms in the *Thesaurus*, then B is a narrower term to Term A, because all members of the class represented by Term B are also members of the class represented by Term A. The corresponding reciprocal statement is, of course, that Term A is a broader term to Term B because, while it has members which are not members of Term B, it does include all members of Term B.

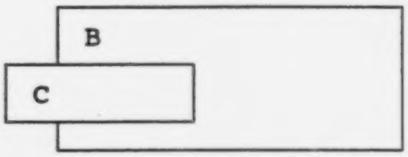
The so-called "all-and-some test" is useful in determining whether terms are related in this manner. In one of the ERIC hierarchies, using Example 1, A = ANIMALS and B = LIVESTOCK. The BT/NT relationship of these terms passes the test as represented by the following diagram:



i.e.,
some animals
are livestock;
all livestock
are animals.

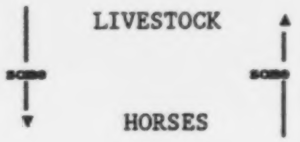
On the other hand, two terms where each has only some members in common with the other (i.e., a class overlap) would be illustrated as follows:

Example 2:



In this example, Term C is not a narrower term to Term B, nor is Term B a broader term to Term C, because although the terms have members in common, all of the members of Term C are not also members of Term B.

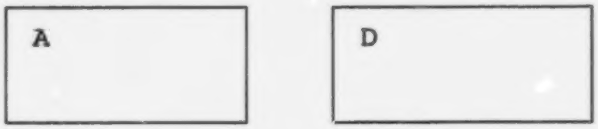
Example 2 can be illustrated with the ERIC terms LIVESTOCK (= B) and HORSES (= C). Using the "all-and-some test":



i.e., some horses are livestock; some livestock are horses, but all horses are not livestock; all livestock are not horses.

Two terms representing totally different types of things such as actions, objects, properties, fields of study, etc., obviously cannot pass the "all-and-some test" and, therefore, cannot logically be hierarchical.

Example 3:

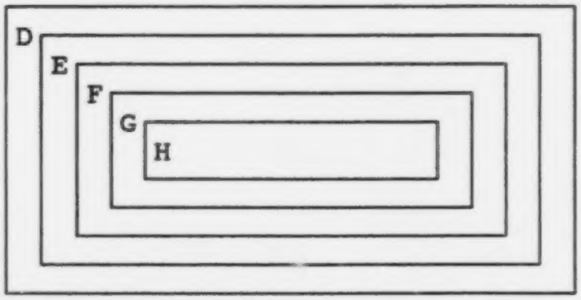


A pair of terms such as ANIMALS and ANIMAL HUSBANDRY, or HORSES and HORSEBACK RIDING, may be considered associated, but not associated hierarchically. (For "associative relationships," see section D.7 on "Related Terms.")

(2) Hierarchical Levels and Branches

There can be many levels in a hierarchy, as in the following example:

Example 4:



Term F lies in the middle of this hierarchy with two broader terms and two narrower terms. These levels would appear in the *Thesaurus* Alphabetical and Hierarchical Displays like this:

Alphabetical Display	Hierarchical Display
Term F	::Term D
NT Term G	:Term E
BT Term E	Term F
	.Term G
	..Term H

Invalid multiple entries or unintentional splits can occur in the Hierarchical Display if care is not taken in BT/NT structuring. Terms should be entered in the *Thesaurus* file with only their most immediate broader and narrower terms cited, i.e., in the same manner in which they will appear in the Alphabetical Display. In Example 4, if Term F were entered citing both D and E as broader terms and G and H as narrower terms, the Hierarchical Display, interpreting this as meaning D and E are at the same level of broadness and G and H are at the same level of narrowness, would contain incorrect double entries.

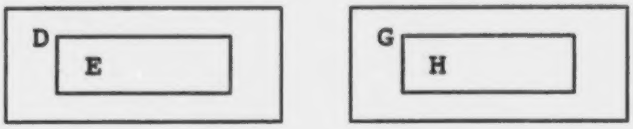
:Term D] - Incorrect Double Entry
::Term D
:Term E
Term F
.Term G
..Term H
.Term H] - Incorrect Double Entry

On the other hand, assume that Terms D through H are members of an existing hierarchy and that new Term "X" needs to be inserted between F and G. The input of Term X would correctly carry the BT Term F and the NT Term G. But, in addition, the previous (now invalid) relationship between F and G would need to be expunged. Otherwise, the following faulty hierarchy would result:

Term D
.Term E
..Term F
...Term G] - Incorrect Double Entry
...Term X
....Term G
.....Term H

The inverse situation occurs if a term is deleted from the middle of a hierarchy. For instance, if Term F were deleted from the Example 4 hierarchy or purged altogether from the *Thesaurus*, a second transaction would be necessary in order to maintain the BT/NT relationship between Terms E and G. Otherwise, a hierarchical "split" would result and leave two independent and seemingly unrelated hierarchies, as in Example 5.

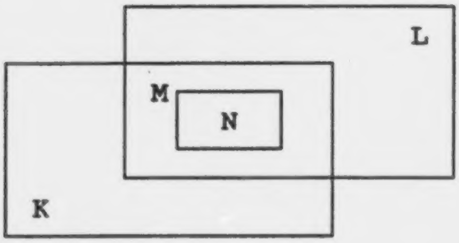
Example 5:

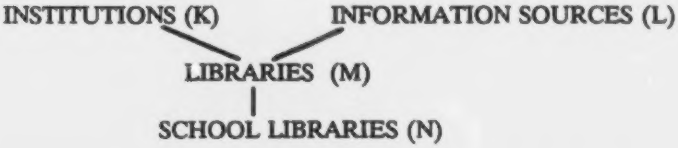


Example 4 illustrates a hierarchy with many levels, each with only one immediately adjacent BT or NT relationship. Although only the next higher (BT) or lower (NT) level is used in generic structuring, this does not mean that a term is limited to one BT or NT.

A given term may be a member of two entirely separate hierarchies. Example 6 illustrates this characteristic, sometimes called a *polyhierarchical relationship*:

Example 6:

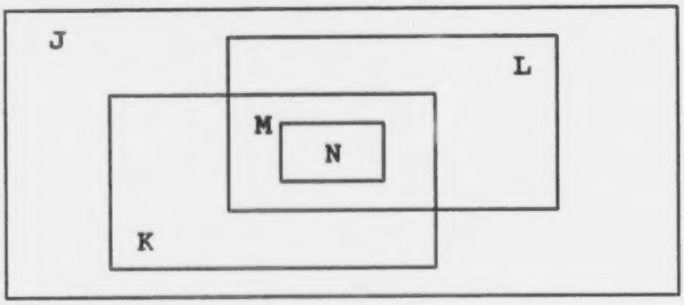


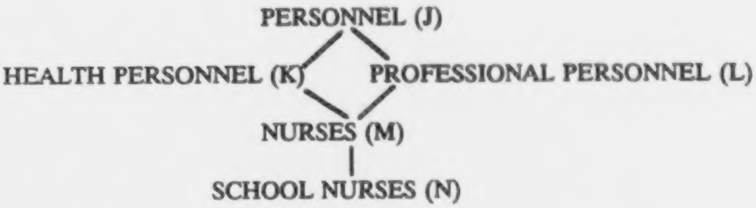


Terms K and L are both immediately broader to Term M and should be so displayed. Term M (and its NT, Term N) will then properly appear in both hierarchies. Below the example are four ERIC Descriptors, arranged to further illustrate this relationship.

Example 7 illustrates the possibility of Terms K, L, M, and N appearing together in one hierarchy:

Example 7:




PERSONNEL (J)
HEALTH PERSONNEL (K)
PROFESSIONAL PERSONNEL (L)
NURSES (M)
SCHOOL NURSES (N)

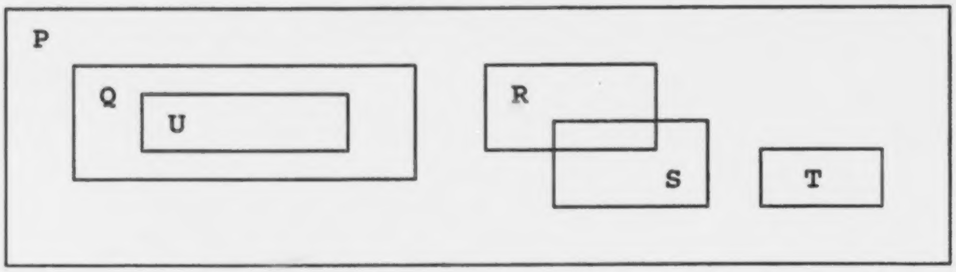
Term J encompasses Terms K through N. Once again, ERIC Descriptors are arranged below the example to further illustrate these relationships.

In this instance, Terms M and N would appear twice in the hierarchy of Term J, under both Term K and Term L. This double appearance of M and N is legitimate, since Terms K and L have no generic relationship to each other even though they share a common BT and the same NTs. A Hierarchical Display printout of this example would appear as follows:

Term J
.Term K
..Term M
...Term N
.Term L
..Term M
...Term N

As one often finds more than one BT at the next higher generic level, multiple NTs at the next lower generic level are even more common. This situation may be illustrated as follows:

Example 8:



Terms Q through T are all narrower to Term P at the next generic level and would be carried as NTs during input to the *Thesaurus* file. Only Term U would not be included during input, since it is an NT of Term Q. Its inclusion directly under Term P would cause an invalid double entry in the hierarchy.

c. **Part-Whole Relationships**

One relationship that is occasionally handled by the NT/BT structure but that cannot legitimately be called "generic" is the part-whole relationship. Parts and their wholes, if cross-referenced to each other at all, are usually related as RTs. For example, SCHOOL BUILDINGS and CAMPUSES are certainly related to one another but in the sense of a part to the whole, not a generic sense. SCHOOL BUILDINGS are a part of CAMPUSES, but are not CAMPUSES in themselves. (See section D.7 on "Related Terms.")

Part-whole NT/BT relationships, in which the "part" always and unambiguously belongs to a particular "whole," are used in many information retrieval systems. It is particularly common to see geographic locations structured in this manner (e.g., Maryland BT United States, Maryland NT Baltimore). Parts of the human body are sometimes arranged this way also (e.g., Stomach BT Digestive System, Brain NT Cerebrum).

The ERIC system indexes geographic locations as Identifiers (see Identifier section VIII-2). Identifiers are not structured in hierarchies. Also, the ERIC *Thesaurus* carries only a few Descriptors relating to the human body, and these are not structured into part-whole hierarchies. Part-whole hierarchies can be useful in structuring the relationships of a certain limited number of terms for indexing and searching. However, there are few such hierarchies in the ERIC *Thesaurus* today, and their use generally is discouraged.

d. **Possible Use Relationships**

Just as part-whole relationships are generally disregarded for BT/NT structuring, so are relationships based on the possible applications or uses of an entity. For example, the term ATLASES is not considered to be a member of the generic family INSTRUCTIONAL MATERIALS because, although ATLASES are sometimes used as INSTRUCTIONAL MATERIALS, they are not necessarily used this way. However, ATLASES are always REFERENCE MATERIALS, and an NT/BT structure here would be correct. ATLASES and INSTRUCTIONAL MATERIALS could be RTs, but since REFERENCE MATERIALS is already carried as an RT of INSTRUCTIONAL MATERIALS, the one relationship is sufficient. (See RT rules regarding proliferation, item D.7.c.(2) of this section.)

Another example of this situation is the relationship between WINDOWS and VENTILATION. WINDOWS are objects, and VENTILATION is a process, so there can be no NT/BT relationship. But, even if the latter term's form was VENTILATORS, there could still be no hierarchy, because some WINDOWS are not VENTILATORS at all, but are used for the sole purpose of LIGHTING. Usage relationships such as these---WINDOWS used for LIGHTING and VENTILATION---are carried in the ERIC *Thesaurus* as RTs.

e. Special Problems with Hierarchies

(1) Finding the Right Hierarchy

Determining the correct hierarchical placement for a particular term is usually not a difficult task. Familiarity with, and experience in using, the *Thesaurus* are valuable for generic structuring, but are not essential.

The important thing is to remember to determine *Thesaurus* precedents and to follow their examples. The attempt should be to locate parallel *Thesaurus* terms and to use their hierarchical placement as a guide. The type of term being worked on is important---does it represent action, a group of objects, a process, a subject field or discipline? A determination of "type" will narrow down considerably the hierarchical families where a particular term might fit. The proper Descriptor Group should also be determined, and existing terms in the chosen group should be examined to see where they fit in the hierarchies. Additionally, the Rotated Display should be consulted to locate terms having the same, or nearly the same, words as the term under consideration---see the hierarchies of those terms. If a proper hierarchical placement cannot be determined after these steps, other thesauri or structured word lists should be checked to see if and how they carry the particular term. (Remember, however, that the existing structure in the ERIC *Thesaurus* takes precedence and should guide the final placement of a term more than the structures of other authorities.)

If, after all of the above steps, a proper hierarchy still cannot be found, the particular term is most likely a hierarchical "isolate" (i.e., it has no NTs nor BTs).

Proper hierarchical placement requires that the scope of a particular term: (1) be within the scopes of its BTs; and (2) adequately subsumes the scopes of all its NTs. This is why it is better to leave a term in isolation than to force it into a hierarchy where it does not truly belong. Terms improperly placed in isolation may be overlooked in "subject-specific" indexing and searching; on the other hand, improper hierarchical placement can cause the incorrect term and all its NTs and BTs to be misread and misused (a more serious consequence).

(2) Hierarchical Visibility

A rule for generic structuring in item D.6.b.(2) states that terms are entered in the *Thesaurus* file citing only their <u>most immediate</u> broader and narrower terms. Without this rule, there could be no multilevel hierarchical structures (i.e., beyond <u>one</u> BT/NT level).

Terms appear in the Alphabetical Display (main display) of the *Thesaurus* just as they are entered in the file. Therefore, just as it must be remembered to enter a term with only its most immediate BTs and NTs, so it must also be remembered that the main Alphabetical Display of a term shows nothing beyond these immediate levels. Take, for example, the term PHYSICAL ACTIVITIES as it appears in the Alphabetical Display:

```
PHYSICAL ACTIVITIES
   NT  ATHLETICS
       BICYCLING
       DANCE
       EXERCISE
       HORSEBACK RIDING
       LIFTING
       RUNNING
       UNDERWATER DIVING
   BT  ACTIVITIES
```

This display shows eight NTs and one BT. Additional generic structures or more distant hierarchical relationships could, of course, be checked by examining the main display of each BT/NT cross-reference and continuing to track BTs and NTs until the most general or specific term is found. Such cross-checking is tedious and time-consuming and can be entirely avoided if the Hierarchical Display is consulted. PHYSICAL ACTIVITIES appears in this display as follows:

```
   :ACTIVITIES
PHYSICAL ACTIVITIES
   .ATHLETICS
   ..AQUATIC SPORTS
   ...DIVING
   ...SAILING
   ...SURFING
   ...SWIMMING
   ...WATER POLO
   ...WATERSKIING
   ..ARCHERY
   ..BOWLING
   ..COLLEGE ATHLETICS
   ..EXTRAMURAL ATHLETICS
   ..FENCING (SPORT)
```

```
..GOLF
..GYMNASTICS
...TUMBLING
..HANDBALL
..INTRAMURAL ATHLETICS
..LIFETIME SPORTS
..OLYMPIC GAMES
..ORIENTEERING
..RACQUET SPORTS
...BADMINTON
...RACQUETBALL
...SQUASH (GAME)
...TENNIS
..ROLLER SKATING
..SPECIAL OLYMPICS
..TABLE TENNIS
..TEAM SPORTS
...BASEBALL
...BASKETBALL
...FIELD HOCKEY
...FOOTBALL
...ICE HOCKEY
...LACROSSE
...SOCCER
...SOFTBALL
...TEAM HANDBALL
...VOLLEYBALL
...WATER POLO
..TRACK AND FIELD
..WEIGHTLIFTING
..WINTER SPORTS
...ICE HOCKEY
...ICE SKATING
...SKIING
..WOMENS ATHLETICS
..WRESTLING
.BICYCLING
.DANCE
.EXERCISE
..AEROBICS
..CALISTHENICS
..PLYOMETRICS
.HORSEBACK RIDING
.LIFTING
..WEIGHTLIFTING
.RUNNING
..JOGGING
.UNDERWATER DIVING
```

The Hierarchical Display provides complete two-way visibility of the broader-narrower relationships of every Descriptor in the *Thesaurus*. In the case of PHYSICAL ACTIVITIES, the display confirms that there is, in fact, only one BT, but it also shows a total of 58 NTs (ICE HOCKEY, WATER POLO, and WEIGHTLIFTING appear twice), including 50 additional specific terms that were not evident in the main display of the term.

Total hierarchical visibility is provided <u>only</u> by the Hierarchical Display. Indexers and searchers alike need to be familiar with this tool and encouraged to use it regularly. Consistent usage by indexers results in subjects of the appropriate level of specificity being posted to ERIC records. Assuming proper indexing, consistent usage by searchers assures precise and relevant retrieval. Failure to consult this display may cause confusion over seemingly incomplete BT/NT relationships that can result in indexing inconsistencies and consequent retrieval problems.

Indexing and searching, however, should never be performed on the basis of the Hierarchical Display alone. Full meanings and proper uses of terms cannot be determined without consulting the main Alphabetical Display, with its Scope Notes and cross-references.

(3) Hierarchical Searching

ERIC documents are indexed to the most specific available Descriptors. An NT and its BT would not normally be indexed to the same document, unless both specific and general subjects were spoken to in some detail. Thus, complete searching of a broad concept (e.g., PHYSICAL ACTIVITIES) needs to consider not only documents posted by the broad term but all documents posted by its narrower terms (e.g., LIFTING, RUNNING) as well. Relevant RTs must be considered too (e.g., PHYSICAL ACTIVITIES has the RTs PHYSICAL EDUCATION and PLAYGROUND ACTIVITIES among others).

Access to the *Thesaurus* is essential in searching. A manual searcher might look up a term like LIBRARIES and never think to consider ACADEMIC LIBRARIES, SPECIAL LIBRARIES, or other available NTs under which documents of interest might be found. And, what if the searcher looks up the BT LIBRARIES in an index journal and finds nothing? Without considering the *Thesaurus* and its NTs, it might be assumed at this first glance that the particular index journal has nothing on the subject. On the other hand, without access to the *Thesaurus*, a computer searcher might use a common word to "hit" a number of Descriptors (e.g., LIBRARIES, ACADEMIC LIBRARIES, etc.) but, at the same time, fail to find many documents indexed by cross-referenced terms not having such common words. Even in full-text computer searching, the *Thesaurus* provides many clues for alternative words, phrases, and coordination strategies.

The online and CD-ROM vendors offering access to ERIC usually include the ERIC *Thesaurus* as an online/ondisk search aid, and have the capacity to "explode" terms from the *Thesaurus*, i.e., to automatically retrieve not only specified terms, but their most immediate narrower terms as well. This would not generally include the automatic searching of entire generic trees. (See previous section on "Hierarchical Visibility" and the Descriptor PHYSICAL ACTIVITIES, an explosion of which would include its own postings plus those of its eight immediately NTs, but typically not those of the remaining 50 terms further down the hierarchy.)

(4) Rule of Specificity

Just as the "rule of specificity" comes into play in the indexing process, it must be a consideration in generic structuring as well.

Basically, the rule as applied to indexing states that documents will be indexed to the specific level of subject matter with which they deal, and will not also be "indexed up" to a higher generic level, except in instances where generalities and particulars are handled together in the same material. Indexing "specifically" gives a searcher, armed with the *Thesaurus*, the maximum number of options, i.e., the searcher may request those items indexed by:

- an NT alone;
- its BT alone;
- either the NT or its BT;
- both the NT and BT.

If the rule of specificity is not observed, the searcher has fewer options. This principle is discussed in more detail in Section VII of this manual, under the subitem entitled "Indexing Specificity."

However, the rule of "specificity" applies only to indexing with Descriptors since only Descriptors have comprehensive NT/BT structures.

Identifiers are not hierarchically related to Descriptors. Therefore, as the examples below illustrate, specific Identifiers are often assigned concurrently with generic or conceptually broader Descriptors.

Examples:

```
IDEN_Oklahoma
DESC_State Programs; State Surveys

IDEN_Test of English as a Foreign
     Language
DESC_Language Tests; Second
     Language Learning

IDEN_Individuals with Disabilities
     Education Act
DESC_Children; Disabilities;
     Federal Legislation; Federal
     Programs

IDEN_Apollo Program
DESC_Aerospace Technology; Lunar
     Research
```

IDEN_Cricket (Sport)
DESC_Team Sports

IDEN_Algonquian Languages
DESC_American Indian Languages

IDEN_Water Rights
DESC_Conservation (Environment); Legal Problems; Water Resources

IDEN_Analogical Reasoning
DESC_Logical Thinking

IDEN_Inventory Control
DESC_Bookkeeping; Data Processing Occupations; Office Management; School Accounting

IDEN_Confidence Intervals (Statistics)
DESC_Error of Measurement; Predictive Measurement; Risk; Statistical Analysis; Test Reliability

IDEN_Country Music
DESC_Music

IDEN_Shoplifting
DESC_Stealing

IDEN_Hope
DESC_Emotional Response; Expectation; Psychological Patterns; Trust (Psychology)

Emerging subjects or concepts in the literature that have the characteristics of Descriptors, but which have not yet been added to the *Thesaurus*, should not be permitted to linger for long in the Identifier field. Because of the "indexing to the specific Descriptor" rule, Identifier indexing does not allow generic/specific distinctions and, without the guidance of hierarchical and related-term structures, can be very inconsistent. It is not hard to see that a group of indexers will more readily agree on how to index a particular document, if most of the appropriate vocabulary is controlled and structured. On the other hand, indexing disagreements are more likely when a large percentage of a system's indexing vocabulary is based on a simple alphabetical list of (theoretically unlimited) term choices.

Excluding the first four examples, each of the above Identifiers has the characteristics of a Descriptor and might be considered as a candidate for the ERIC *Thesaurus*. A Clearinghouse's general rule of thumb should be to start thinking of a term's *Thesaurus* "fit" after about 5 postings, and to have a *Thesaurus* input form in the mail to the Facility after about 10 postings.

7. Related Terms

a. General

Related Terms (RTs) are cross-references that are neither hierarchical (BT/NT) nor equivalent (USE/UF) but are essential for informing users of alternative terms for indexing/locating documents on given subjects. An RT relationship exists when there is a strong conceptual bond between two terms, which sometimes, but not always, is reflected by concurrent usage in the literature.

The RT relationship is always reciprocal or two-sided, as the two examples given below show:

```
CHILD ABUSE                         CHILD WELFARE
  UF ABUSED CHILDREN                  BT WELL BEING
  BT ANTISOCIAL BEHAVIOR              RT ADOPTED CHILDREN
  RT CHILD WELFARE                       CHILD ABUSE
     CHILDREN                            CHILDREN
```

b. Categories of RTs

(1) Defined by Engineers Joint Council (EJC), 1966

Sometimes called the "associative relationship," the RT has been referred to as "vague" and "difficult to define," and it is universally acknowledged that assignments must be somewhat subjective. Various rules and principles have developed over the years that indexers or lexicographers can consider in establishing RTs. Some of the clearest and best guidance in the area, however, was written over 25 years ago. The following paragraph from American National Standard Z39.19-1974 is a slightly modified version of an earlier writeup in *Thesaurus Rules and Conventions*, published by the Engineers Joint Council (New York) in November 1966. The examples, however, are ERIC's.

> "The RT reference is employed as a guide from a given term to other terms that are closely related in ways other than the genus-species (BT-NT) relationship. In general, any two terms bear the cross-reference RT to each other if it is believed that the user, when examining one of them, might

want to be reminded of the existence of the other. RT references may be used to identify relationships such as the following:

- Terms that are near-synonyms

  ACHIEVEMENT/PERFORMANCE
  BIRTH/REPRODUCTION (BIOLOGY)
  CURRICULUM GUIDES/TEACHING GUIDES
  EDUCATION/INSTRUCTION
  ORAL READING/READING ALOUD TO OTHERS

- Terms that have viewpoint [or practical] interrelationships, such as a relationship based on usage

  ARITHMETIC/FRACTIONS
  ARTISTS/PAINTING (VISUAL ARTS)
  CHILDREN/PLAY
  COST INDEXES/INFLATION (ECONOMICS)
  CULTURE FAIR TESTS/TEST BIAS
  HEALTH/DISEASES
  HEALTH FACILITIES/MEDICAL SERVICES
  HUNGER/NUTRITION
  WINDOWS/VENTILATION

- Terms representing concepts bearing a whole-part relationship to each other

  BUILDINGS/ROOFING
  HUMAN BODY/CARDIOVASCULAR SYSTEM
  INTERNATIONAL RELATIONS/DISARMAMENT
  SCHOOL CATALOGS/COURSE DESCRIPTIONS

- Terms that represent overlapping concepts

  CIVIL LIBERTIES/JUSTICE
  CREDIBILITY/INTEGRITY
  DRUG EDUCATION/DRUG REHABILITATION
  GEOGRAPHY/CARTOGRAPHY
  SOCIAL PSYCHOLOGY/CRIMINOLOGY
  SPECIFICATIONS/CRITERIA

(2) **Defined by Other Authorities**

Other authorities which elaborate the RT relationship and provide useful examples are:

- Barhydt & Schmidt. *Information Retrieval Thesaurus of Education Terms*. Cleveland: Press of Case Western Reserve Univ. , 1968. pp 15-18.

- Lancaster. *Vocabulary Control for Information Retrieval.* Arlington, VA: Information Resources Press.
  - 1986, 2nd ed. pp 45-49.
  - 1972, 1st ed. pp 80-85 (Includes the Barhydt/Schmidt discussion).
- National Information Standards Organization (NISO). *American National Standard Guidelines for the Construction, Format, and Maintenance of Monolingual Thesauri.* Bethesda, MD: 1990. (ANSI/NISO Z39.19-199x) pp 50-55.
- Aitchison & Gilchrist. *Thesaurus Construction—A Practical Manual.* Second edition. London: Aslib, 1987. pp 45-50
- UNESCO. *SPINES Thesaurus.* Vol. I. English/Multilingual edition of the 1984 revision. Paris: 1988. pp xiv.
- Borko & Bernier. *Indexing Concepts and Methods.* New York: Academic Press, 1978. pp 29-30.

These few sources, constituting about all that has been written on the subject of RTs, provide an appreciation and understanding of the complexities of RT relationships. Each source defines somewhat different categories of RTs, but all are variations on the four basic EJC categories given above. Some of the other categories of RT relationship to be found in these works (again, the examples are ERIC's) are:

- Field of Study and Items Studied

  CHEMISTRY/ATOMIC STRUCTURE
  PSYCHIATRY/MENTAL HEALTH
  SEX EDUCATION/VENEREAL DISEASES

- Near Antonyms (Interactive)

  DEDUCTION/INDUCTION
  FAILURE/SUCCESS
  MARRIAGE/DIVORCE

  ---- A Thing and Its Counter Agent

  RATS/PESTICIDES

- Cause and Effect

  DEATH/WIDOWED
  LEARNING/SCHOLARSHIP

- A Thing and Its Producing Agent

    INSURANCE/RISK
    LONELINESS/SOCIAL ISOLATION
    POPULAR CULTURE/MASS MEDIA
    VIOLENCE/REVOLUTION

    ---- Product and Process

    ORAL HISTORY/INTERVIEWS
    PHOTOGRAPHS/PHOTOGRAPHY
    READERS THEATER/ORAL INTERPRETATION
    TECHNOLOGICAL ADVANCEMENT/INVENTIONS

    ---- Process and Responsible Group

    AGRICULTURE/FARMERS
    SUPERVISION/SUPERVISORS

- A Thing and Its Recipient or User

    CHILD WELFARE/FOSTER CHILDREN
    SEASONAL EMPLOYMENT/MIGRANT WORKERS
    SEWING MACHINE OPERATORS/FASHION INDUSTRY

- A Thing and Its Purpose or What It Characterizes

    BIBLIOGRAPHIES/BOOKS
    LOCAL GOVERNMENT/COMMUNITY SERVICES
    MARRIAGE COUNSELING/MARITAL INSTABILITY
    TEACHING MACHINES/PROGRAMED INSTRUCTION
    TOYS/PLAY

- Having the Same Broad Term and Overlapping Conceptually (sometimes referred to as "siblings"; often used interchangeably)

    AMERICAN INDIANS/CANADA NATIVES
    PARENTS/FAMILY (SOCIOLOGICAL UNIT)
    RETAILING/MERCHANDISING
    RHETORIC/SPEECH

The above categories illustrate the most common RT relationships. No attempt has been made to describe every conceivable type of RT. Lancaster states that "in a sense, every thesaurus term is related to every other thesaurus term at varying strengths of semantic association." The task of the indexer or lexicographer, then, in developing an RT display, is to try to include those terms that are sufficiently closely related to be of obvious benefit to users of the ERIC *Thesaurus*.

c. Selection of RTs for a Term Display

(1) Establishing a List of Candidate RTs

It is recommended that you do not start by trying to fit the concept you are working on into predetermined RT categories such as the ones described above. Instead, break the concept down into the various ways it can be used or expressed. (For example, BOOKS are written, published, reviewed, serialized, listed in bibliographies, housed in libraries, etc.) Make a list of all potential RTs as you think of them.

Now, look at the Scope Note you developed for the concept and definitions you consulted, and add key words and phrases from these to your list. You may want to expand your list by looking at other thesauri to see how they express and display your concept. Also of value is a check to see if the concept appears as an Identifier or in the text of ERIC records. Full-text and Identifier searches of the file, to examine the indexing terms assigned to the retrieved records, are recommended for this purpose. You should now have a reasonably complete list of alternative words and phrases that are available for expressing your concept and for putting it into a proper thesaurus context.

You are now ready to begin structuring RTs for your concept. First, match all terms on your list with existing Descriptors in the *Thesaurus*. You will then have a new list of terms to work from, and your original list of terms may be set aside. From this point on, you are working with legitimate ERIC Descriptors.

Go Descriptor-by-Descriptor down your new list, looking at the full display of each term. In doing this, you will undoubtedly find other Descriptors that you initially did not consider. Add these to your list. The main thing that you'll be trying to decide by this exercise is whether your concept fits comfortably in each of the various displays of the candidate RTs under examination. Consider your concept's hierarchical siblings (other Descriptors from the hierarchy(s) you chose for your concept, especially those at the same hierarchical level) and other Descriptors that are grammatical variations of your concept and its synonyms (e.g., gerunds, adjectival variations, etc.). Do they appear in a given display? If not, your concept probably does not belong there.

On finishing this exercise, you will have a third list of Descriptors which, in all probability, will be your final list of recommended RTs. However, it is usually helpful to go through the list once more to look for conceptual "holes" or "displacements." A look at the *Rotated Display* is helpful here. Ask yourself during this check if broader or single-word Descriptors can better express the relationships you want to convey than the more specific terms you are considering.

(2) Avoiding Proliferation of RTs

It is very important to avoid proliferating RTs since no one can effectively use excessively long displays. Often, one RT cross-reference at the broad conceptual level can better express the desired relationship than several more specific references. In this regard, the maxim known as "Ockham's Razor" is useful to keep in mind.

> Ockham's Razor...
>
> *"Multiplicity ought not to be posited without necessity."*
>
> William of Ockham
> (philosopher, early 14th century)

For example, if HISTORY INSTRUCTION is related to HISTORY, it does not also need to be related to UNITED STATES HISTORY, MODERN HISTORY, BLACK HISTORY, etc. Additional examples are given below of ways to avoid proliferation in the RT field:

- Avoid proliferation. In the example below, STUDENT CHARACTERISTICS could conceivably be related to STUDENTS and all of its Narrower Terms, but a single cross-reference to STUDENTS is all that's necessary.

```
Preferred        STUDENTS
                   RT   STUDENT CHARACTERISTICS

Not Preferred    PART TIME STUDENTS
                   RT   STUDENT CHARACTERISTICS
```

- Try to select the proper hierarchical level for your cross-references. For example, DUAL ENROLLMENT and SHARED RESOURCES AND SERVICES are best related to INSTITUTIONAL COOPERATION, and not also to the narrower INTERCOLLEGIATE COOPERATION.

```
Preferred        INSTITUTIONAL COOPERATION
                   RT   DUAL ENROLLMENT
                        SHARED RESOURCES AND SERVICES

Not Preferred    INTERCOLLEGIATE COOPERATION
                   RT   DUAL ENROLLMENT
                        SHARED RESOURCES AND SERVICES
                 INSTITUTIONAL COOPERATION
                   RT   DUAL ENROLLMENT
                        SHARED RESOURCES AND SERVICES
```

- Try to select the simplest, most direct term, particularly when deciding among several potential terms in the same alphabetic sequence.

Preferred	VERBAL COMMUNICATION	RT READING
Not Preferred	VERBAL COMMUNICATION	RT READING MATERIALS
	VERBAL COMMUNICATION	RT READING SKILLS

- Try to select the most subject-specific relationship available among several possible terms.

Preferred	INTERNATIONAL EDUCATIONAL EXCHANGE	RT INTERNATIONAL PROGRAMS STUDENT EXCHANGE PROGRAMS STUDY ABROAD
	INTERNATIONAL PROGRAMS	RT INTERNATIONAL EDUCATIONAL EXCHANGE
Not Preferred	INTERNATIONAL EDUCATIONAL EXCHANGE	RT INTERNATIONAL PROGRAMS STUDENT EXCHANGE PROGRAMS STUDY ABROAD
	INTERNATIONAL PROGRAMS	RT INTERNATIONAL EDUCATIONAL EXCHANGE STUDENT EXCHANGE PROGRAMS STUDY ABROAD

Preferred	DISARMAMENT	RT INTERNATIONAL RELATIONS
	PEACE	RT INTERNATIONAL RELATIONS
Not Preferred	DISARMAMENT	RT INTERNATIONAL PROGRAMS INTERNATIONAL RELATIONS
	PEACE	RT INTERNATIONAL PROGRAMS INTERNATIONAL RELATIONS

- Avoid improperly slanting or restricting a term. For example, PART TIME STUDENTS may be enrolled at all educational levels.

Not Preferred	PART TIME STUDENTS	RT ADULT STUDENTS

(3) RT Lists as Mini-Indexes

There are occasional situations where abundant RTs may be useful and valid. RTs can provide mini-indexes to some of the *Thesaurus'* most general terms. This is why broad terms like BEHAVIOR, BLACKS, COLLEGES, COMMUNITY, READING, etc., acquire long RT displays. This is particularly helpful for the beginning *Thesaurus* user who usually has a nominal concept in mind and needs to know the various combinations in which that concept is displayed in adjectival form. It could be argued that the "Rotated Display" should be used for this purpose, but such "selective" proliferation has become standard practice in most thesauri. Additionally, the conceptual relationships among terms in these situations are often not clear-cut. For example, who would want to argue that COMMUNITY ATTITUDES and COMMUNITY ROLE have a closer conceptual relationship to COMMUNITY than COMMUNITY LEADERS and COMMUNITY SCHOOLS? It is easier and less confusing in these cases to simply list all such RT relationships under the broad, most general terms.

E. Vocabulary Development Form

The Vocabulary Development Form is provided for the convenient recording and processing of all changes to the *Thesaurus*, whether additions of new Descriptors, modifications of existing Descriptor displays, or Descriptor deletions (purges). All justification information is recorded on the form, including both authorities cited and personal contacts. Space is provided for indicating any RIE and CIJE postings changes that are necessary to keep the *Thesaurus* and postings files synchronous. Characteristics of the Vocabulary Development Form and requirements for completing it are discussed in the following paragraphs.

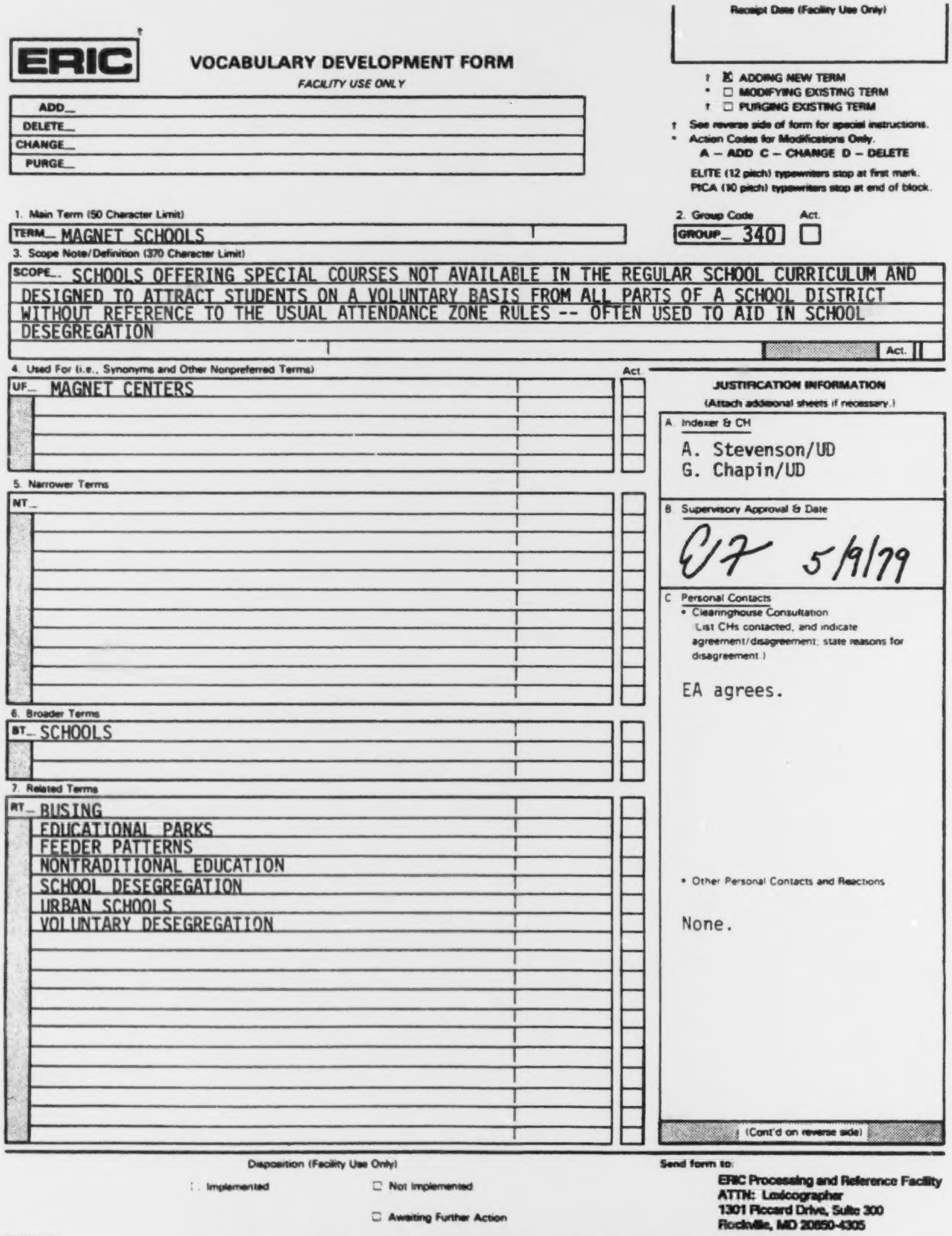
1. Pre-Printed Vocabulary Development Forms or Computer-Prepared Substitutes?

Thesaurus additions and changes may be prepared either on pre-printed vocabulary forms or on computer-prepared substitutes. Any computer-prepared forms used should be arranged similarly to the pre-printed forms and contain the same data elements.

The pre-printed Vocabulary Development Form (2-sided) is illustrated in **Figure VIII-1-8**. This is a completed version of the form, showing its use for adding a new Descriptor. The form was introduced in 1980 as part of the new Vocabulary Development Program (see item "B.3"). Its design is similar to ERIC's earlier "Descriptor Justification Form (DJF)," a version of which is shown in **Figure VIII-1-ATT-1-1**. The line spacing is set up for any standard typewriter, so that when the form is lined up for entry of the Main Term, it should not be necessary to adjust the typewriter subsequently.

An example of a microcomputer-prepared template of the Vocabulary Development Form (in WordPerfect 5.1) is illustrated in **Figure VIII-1-9**. Both a blank copy and a completed version are shown. Two additional examples of what completed VDF templates look like are shown in **Attachment #2** of this section. Whether such templates are unique to a particular indexer or whether they are designed for use by everyone in a Clearinghouse, or across several Clearinghouses, is immaterial, as long as the required data elements are present.

The decision on whether to use the pre-printed form, to generate one independently, or to share one with others, is left to individual discretion.



ERIC

VOCABULARY DEVELOPMENT FORM

FACILITY USE ONLY

ADD_
DELETE_
CHANGE_
PURGE_

Receipt Date (Facility Use Only)

† ☒ ADDING NEW TERM
* ☐ MODIFYING EXISTING TERM
† ☐ PURGING EXISTING TERM

† See reverse side of form for special instructions.
* Action Codes for Modifications Only.
A – ADD C – CHANGE D – DELETE

ELITE (12 pitch) typewriters stop at first mark.
PICA (10 pitch) typewriters stop at end of block.

1. Main Term (50 Character Limit)
TERM_ MAGNET SCHOOLS

2. Group Code
GROUP_ 340
Act. ☐

3. Scope Note/Definition (370 Character Limit)
SCOPE_ SCHOOLS OFFERING SPECIAL COURSES NOT AVAILABLE IN THE REGULAR SCHOOL CURRICULUM AND DESIGNED TO ATTRACT STUDENTS ON A VOLUNTARY BASIS FROM ALL PARTS OF A SCHOOL DISTRICT WITHOUT REFERENCE TO THE USUAL ATTENDANCE ZONE RULES -- OFTEN USED TO AID IN SCHOOL DESEGREGATION
Act.

4. Used For (i.e., Synonyms and Other Nonpreferred Terms)
UF_ MAGNET CENTERS

5. Narrower Terms
NT_

6. Broader Terms
BT_ SCHOOLS

7. Related Terms
RT_ BUSING
EDUCATIONAL PARKS
FEEDER PATTERNS
NONTRADITIONAL EDUCATION
SCHOOL DESEGREGATION
URBAN SCHOOLS
VOLUNTARY DESEGREGATION

JUSTIFICATION INFORMATION
(Attach additional sheets if necessary.)

A. Indexer & CH
A. Stevenson/UD
G. Chapin/UD

B. Supervisory Approval & Date
5/9/79

C. Personal Contacts
- Clearinghouse Consultation
(List CHs contacted, and indicate agreement/disagreement; state reasons for disagreement.)

EA agrees.

- Other Personal Contacts and Reactions

None.

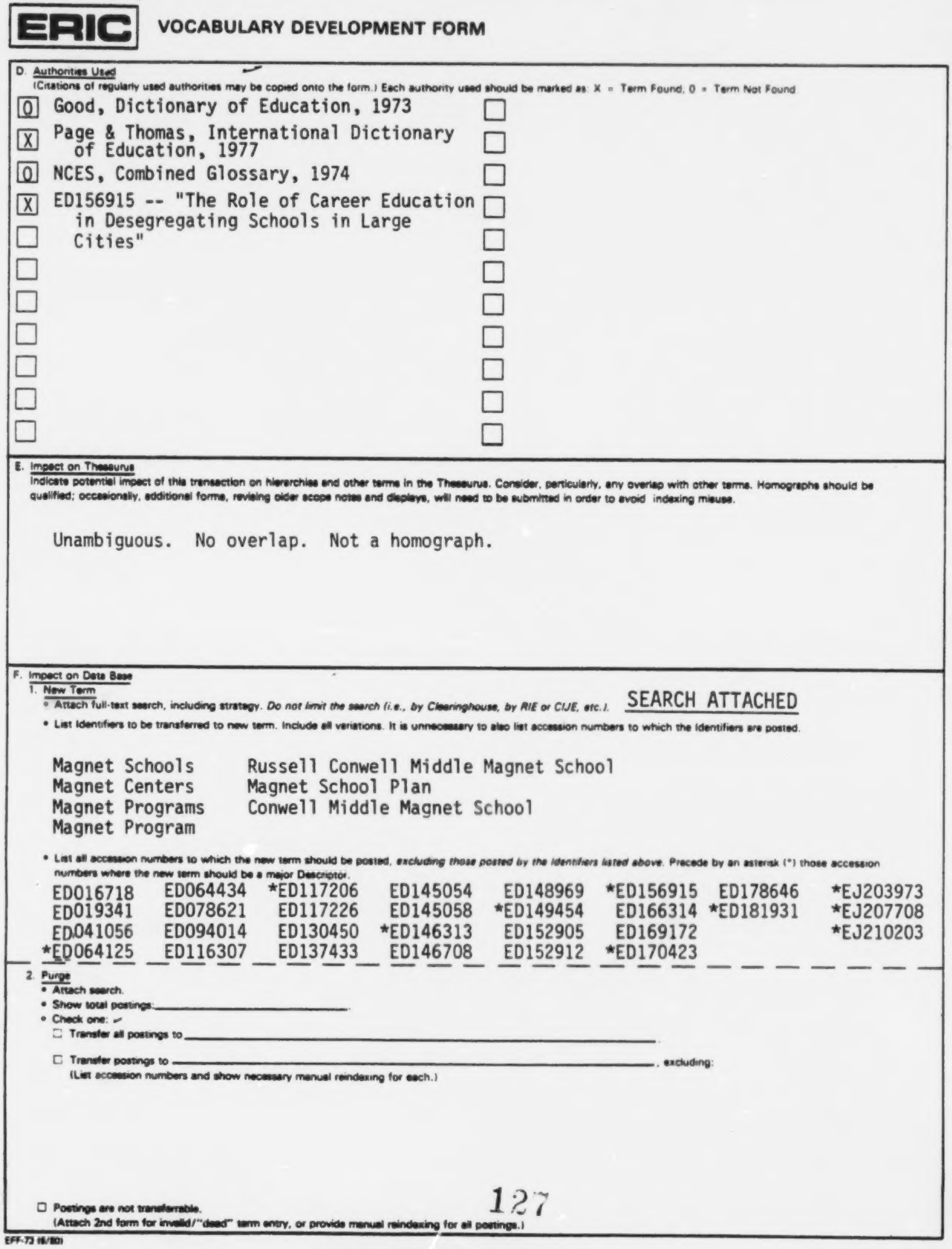
(Cont'd on reverse side)

Disposition (Facility Use Only)
☐ Implemented ☐ Not Implemented
☐ Awaiting Further Action

Send form to:
ERIC Processing and Reference Facility
ATTN: Lexicographer
1301 Piccard Drive, Suite 300
Rockville, MD 20850-4305

EFF-73 (6/80)

FIGURE VIII-1-8: VOCABULARY DEVELOPMENT FORM
(Example of Completed New Term Recommendation)



ERIC VOCABULARY DEVELOPMENT FORM

D. Authorities Used
(Citations of regularly used authorities may be copied onto the form.) Each authority used should be marked as: X = Term Found, 0 = Term Not Found

[O] Good, Dictionary of Education, 1973 ☐
[X] Page & Thomas, International Dictionary of Education, 1977 ☐
[O] NCES, Combined Glossary, 1974 ☐
[X] ED156915 -- "The Role of Career Education in Desegregating Schools in Large Cities" ☐
☐ ☐
☐ ☐
☐ ☐
☐ ☐
☐ ☐
☐ ☐
☐ ☐

E. Impact on Thesaurus
Indicate potential impact of this transaction on hierarchies and other terms in the Thesaurus. Consider, particularly, any overlap with other terms. Homographs should be qualified; occasionally, additional forms, revising older scope notes and displays, will need to be submitted in order to avoid indexing misuse.

Unambiguous. No overlap. Not a homograph.

F. Impact on Data Base
1. New Term
- Attach full-text search, including strategy. *Do not limit the search (i.e., by Clearinghouse, by RIE or CIJE, etc.).* SEARCH ATTACHED
- List Identifiers to be transferred to new term. Include all variations. It is unnecessary to also list accession numbers to which the identifiers are posted.

Magnet Schools
Magnet Centers
Magnet Programs
Magnet Program
Russell Conwell Middle Magnet School
Magnet School Plan
Conwell Middle Magnet School

- List all accession numbers to which the new term should be posted, *excluding those posted by the identifiers listed above.* Precede by an asterisk (*) those accession numbers where the new term should be a major Descriptor.

ED016718	ED064434	*ED117206	ED145054	ED148969	*ED156915	ED178646	*EJ203973
ED019341	ED078621	ED117226	ED145058	*ED149454	ED166314	*ED181931	*EJ207708
ED041056	ED094014	ED130450	*ED146313	ED152905	ED169172		*EJ210203
*ED064125	ED116307	ED137433	ED146708	ED152912	*ED170423		

2. Purge
- Attach search.
- Show total postings: ____________
- Check one: ✓
  - ☐ Transfer all postings to ____________
  - ☐ Transfer postings to ____________, excluding:
    (List accession numbers and show necessary manual reindexing for each.)

127

☐ Postings are not transferrable.
(Attach 2nd form for invalid/"dead" term entry, or provide manual reindexing for all postings.)

EFF-73 (6/80)

FIGURE VIII-1-8 (Side 2)

ERIC VOCABULARY DEVELOPMENT FORM

☐ Adding New Term.
☐ Modifying Existing Term.
☐ Purging Existing Term.

[ ]	Action Codes for Modifications Only
	A - ADD C - CHANGE D - DELETE

1. TERM_
[ ] 2. GROUP_
[ ] 3. SCOPE_
[ ] 4. UF_
[ ] 5. NT_
[ ] 6. BT_
[ ] 7. RT_

A. INDEXER & CH:

B. SUPERVISORY APPROVAL & DATE:

C. PERSONAL CONTACTS:

CLEARINGHOUSE CONSULTATION
(List CHs contacted, and indicate agreement/disagreement; state reasons for disagreement.)

OTHER PERSONAL CONTACTS AND REACTIONS

D. AUTHORITIES USED:
X = Term Found.
O = Term Not Found.

E. IMPACT ON THESAURUS

F. IMPACT ON DATABASE
1. NEW TERM - Attach full-text search, including strategy.

List Identifiers to be transferred to new term:

List all accession numbers to which the new term should be posted, excluding those posted by the Identifiers listed above. Precede by an asterisk (*) those accession numbers where the new term should be a major Descriptor.

2. PURGE - Attach search.

Show total postings:

Check one : ✓

☐ Transfer all postings to:

☐ Transfer postings to:
(List accession numbers and show necessary manual reindexing for each.)

☐ Postings are not transferrable.
(Attach 2nd form for invalid/"dead" term entry, or provide reindexing for all postings.)

FIGURE VIII-1-9a: MICROCOMPUTER-PREPARED VOCABULARY DEVELOPMENT FORM (EXAMPLE -- BLANK)

ERIC VOCABULARY DEVELOPMENT FORM

✓ Adding New Term.
☐ Modifying Existing Term.
☐ Purging Existing Term.

[ ] Action Codes for Modifications Only

A - ADD   C - CHANGE   D - DELETE

1. TERM_DRUG USE TESTING
[ ] 2. GROUP_210
[ ] 3. SCOPE_SCREENING FOR DRUG USE OR ABUSE BY THE QUANTITATIVE DETERMINATION OF DRUG METABOLITES IN THE BLOOD, URINE, TISSUE, ETC.
[ ] 4. UF_DRUG TESTING (PRESENCE IN BODY)
[ ] 5. NT_
[ ] 6. BT_EVALUATION METHODS
[ ] 7. RT_DRUG ABUSE;
DRUG USE;
ILLEGAL DRUG USE;
PHYSICAL EXAMINATIONS

A. INDEXER & CH: Jim Houston, AA

B. SUPERVISORY APPROVAL & DATE:

C. PERSONAL CONTACTS:

CLEARINGHOUSE CONSULTATION
(List CHs contacted, and indicate agreement/disagreement; state reasons for disagreement.)

OTHER PERSONAL CONTACTS AND REACTIONS

D. AUTHORITIES USED:
X = Term Found.
0 = Term Not Found.

X- MedLine (uses subheadings, e.g., "Substance Abuse -- Diagnosis")
X- PsycInfo (uses "Drug Use Screening" since 1988)
O- Sociological Abstracts
O- Consumer Drug Information File
O- Drug Information Fulltext
X- Health Planning & Administration (follows MedLine)
O- Mental Health Abstracts
X- Nursing & Allied Health CINAHL (follows MedLine)
O- Occupational Safety & Health NIOSH
X- Magazine ASAP (uses "Drug Use Testing" along with subheadings)

All above are DIALOG databases.

FIGURE VIII-1-9b: MICROCOMPUTER-PREPARED VOCABULARY DEVELOPMENT FORM (EXAMPLE -- COMPLETED) Page 1 of 2

E. IMPACT ON THESAURUS

"Drug Use Testing" borrowed from Magazine Index. The common usage "Drug Testing" is ambiguous; UF added to cover that form.

F. IMPACT ON DATABASE

1. NEW TERM - Attach full-text search, including strategy.

List Identifiers to be transferred to new term:

JUL89 Postings -

1	Drug Detection
12	Drug Testing
2	Drug Testing Programs
8	Drug Use Testing
4	Mandatory Drug Testing

List all accession numbers to which the new term should be posted, excluding those posted by the Identifiers listed above. Precede by an asterisk (*) those accession numbers where the new term should be a major Descriptor.

EJ381970
EJ379431
EJ360329
*EJ357608
EJ354960
*EJ352285
*EJ350706
*EJ349449
EJ345800
*EJ341512
*EJ335263
*EJ334596
*EJ330013
*EJ328903
*EJ135318
ED285449
ED282327
ED281304
ED275272

2. PURGE - Attach search.

Show total postings:

Check one : ✓

☐ Transfer all postings to:

☐ Transfer postings to:
(List accession numbers and show necessary manual reindexing for each.)

☐ Postings are not transferrable.
(Attach 2nd form for invalid/"dead" term entry, or provide reindexing for all postings.)

FIGURE VIII-1-9b: MICROCOMPUTER-PREPARED VOCABULARY DEVELOPMENT FORM (EXAMPLE -- COMPLETED) Page 2 of 2

2. Character Limitations

In fields 1 and 4 through 7, allowable characters are limited to the following:

- Upper-case letters A-Z;
- Arabic numerals 0-9;
- Left and right parentheses ( ).

In field 2, use Arabic numerals only (3-digit Group Code).

In field 3, Scope Note/Definition, use any upper-case alphabetics, numerals, and special characters within the standard ERIC character set, except for the semicolon (;). Except in the case of an abbreviation, do not conclude a Scope Note with a period.

3. Field Length

a. Terms

A *Thesaurus* term, whether Descriptor or UF (Used For), may not exceed 50 characters (including spaces) in length. If a term contains more than 50 characters, it is invalid and cannot be accepted by the system.

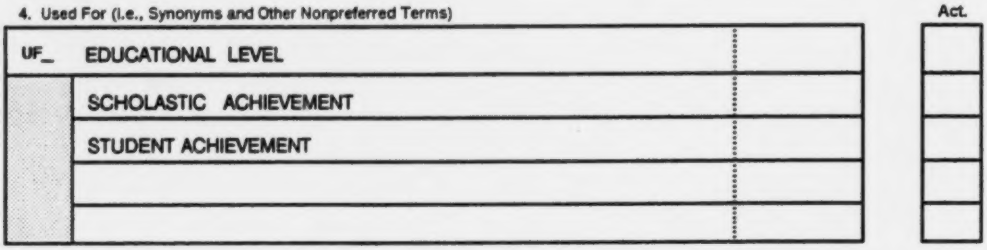
There is no system limitation to the number of Used For terms, Narrower Terms, Broader Terms, and Related Terms that may be entered. However, practical considerations limit the number of lines that can be provided on the pre-printed Vocabulary Development Form. If more space is needed for any of these fields, additional forms should be used and marked SHEET 1 of X, SHEET 2 of X, etc. Also, enter "(CONTINUED)" on the last line of each block that is continued on a following sheet, as in the following example:

FIRST SHEET

4. Used For (i.e., Synonyms and Other Nonpreferred Terms)

			Act.
UF_	ACADEMIC PERFORMANCE (1966 1974)		
	ACADEMIC PROGRESS		
	ACADEMIC SUCCESS		
	EDUCATIONAL ACHIEVEMENT		
	(CONTINUED)		

FOLLOWING SHEET


4. Used For (i.e., Synonyms and Other Nonpreferred Terms)

		Act.
UF_	EDUCATIONAL LEVEL	
	SCHOLASTIC ACHIEVEMENT	
	STUDENT ACHIEVEMENT	

In fields 1 and 4 through 7 of the pre-printed Vocabulary Development Form (see **Figure VIII-1-8**), the distance between the underscore following the data-entry keyword and the end of the field block is sufficient to permit the entry of 50 characters and spaces with a PICA (10 characters/inch) typewriter. A vertical mark is provided on each line to mark the 50-character point for ELITE (12 characters/inch) typewriters.

b. Group Code

This field is limited to three (3) numeric characters only, i.e., one Descriptor Group Code.

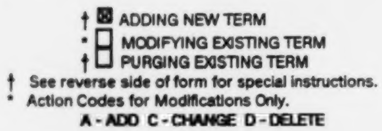
c. Scope Note

The Scope Note/Definition field is limited to 370 characters, including spaces. The pre-printed form provides for that number of PICA characters between the end of the underscore following the keyword and the beginning of the shading on the fifth line. For ELITE typewriters, there are 370 spaces between the underscore and the vertical mark on the fifth line.

Because words may not be divided (hyphenated) at the end of lines, it is likely that some additional spaces will be available when the "end" marks are reached. Unused character spaces at the end of lines one through four can be used for continuation beyond the fifth line's end marks. In determining whether there are enough unused positions, remember that the computer system inserts a space after the last word in each line, so that if there are seven character spaces unused on a line, only six are available for carryover use.

4. Adding New Term

A "✓" or "X" should be entered in the "ADDING NEW TERM" box at the top of the form's front side, as shown:


† ☒ ADDING NEW TERM
* ☐ MODIFYING EXISTING TERM
† ☐ PURGING EXISTING TERM
† See reverse side of form for special instructions.
* Action Codes for Modifications Only.
A - ADD C - CHANGE D - DELETE

This reminds the indexer (preparer) to check the back of the form for special instructions and alerts the Facility Lexicographer to the purpose of the submittal.

Note: The Action (Act.) boxes accompanying fields 2 through 7 are not used when adding a new term.

a. Main Term (Field #1)

Candidate Descriptors should conform, in both intellectual content and format, to the rules for Main Terms, item D.2 of this section.

A candidate Descriptor is entered in field 1, as follows:

1. Main Term (50 Character Limit)

TERM_ COUNSELORS

b. Group Code (Field #2)

Each candidate Descriptor must be assigned a Group Code by the indexer submitting the form. The Group Code places the new term in one of forty-one (41) broad subject categories called Descriptor Groups. A listing of the Descriptor Groups and Group Codes, and guidelines for selecting the one proper group for a new Descriptor, may be found in the rules for Descriptor Groups, item D.3 of this section.

The selected 3-digit Group Code is entered in field 2, as follows:

2. Group Code Act.

GROUP_ 240 ☐

c. Scope Note/Definition (Field #3)

Most new terms require accompanying Scope Notes. Absence of a Scope Note for a new term must be justified. Most information retrieval thesauri employ Scope Notes to restrict usage of potentially ambiguous terms. Because of the inherent "softness" or imprecision of educational terminology and its overlap across many fields of study, ERIC carries definitional Scope Notes on all terms whose meanings are not self-evident. ERIC's Scope Notes should not be construed as formal definitions, but as indicators of how terms are (or should be) used in indexing. Instructional notations frequently are part of Scope Notes. These notations direct the *Thesaurus* user to other terms, indicate proper coordination, provide historical notes on changes in usage or cross-reference structure, or otherwise guide and explain preferred usage for both indexing and searching.

Scope Notes should be written in accordance with the guidelines and rules of item D.4 of this section, as well as the following:

- Scope notes should be succinct. Keep the length of a Scope Note to the minimum consistent with clarity. Maximum length is 370 characters.

- While the system will accept lower case alphabetic characters, Scope Notes should be entered in all upper case to maintain consistency with existing entries.

- Be sure to examine the existing Scope Notes of related terms and other terms having the same component words as the candidate Descriptor. Don't "re-invent the wheel" when it is possible to borrow or adapt the work done by others.

- In preparing Scope Notes for new Descriptors, it is necessary to project the possible future applications of the concept in different contexts---to move beyond the applications found in existing documents and articles to consider the potential development, expansion, or refinement of the concept in future years. Dictionaries and other authorities serve as checks against unnecessary restriction of a Descriptor's scope that might inhibit future applications.

- A minimum of three authorities must be cited for each definitional Scope Note prepared. More are desirable. It is strongly recommended that wherever a number of subject-specialized authorities exist, i.e., those directly relevant to the subject area or topic at hand, as many as possible should be consulted. All authorities consulted should be listed on the back side of the input form (block "D"), whether or not they contributed elements to a Scope Note or helped in its justification or support. The check marks X for "term found" and O for "term not found" (see block "D"), inform the Lexicographer that a particular authority was taken into consideration.

- As an aid to lexicographic analysis, submit copies of all definitions utilized in the wording of a Scope Note when these may not be readily available to the Lexicographer, e.g., pages from journal articles. Mark the appropriate passages. (If a microfiche reader/printer is not available and ERIC documents are cited, submit the ED number and the page or frame number.)

The Scope Note is entered in field 3, as follows:

1. Main Term (50 Character Limit)	2. Group Code	Act.
TERM_ LIBRARY SCIENCE	GROUP_ 710	

3. Scope Note/Definition (370 Character Limit)

SCOPE_ STUDY AND PROFESSION OF THE ADMINISTRATION OF LIBRARIES AND THEIR CONTENTS - INCLUDES THE
PROCEDURES BY WHICH LIBRARIES RECOGNIZE, ACQUIRE, ORGANIZE, DISSEMINATE, AND UTILIZE INFORMATION

Act.

1. Main Term (50 Character Limit)
TERM_ OUT OF SCHOOL YOUTH
2. Group Code
GROUP_ 510
Act.
3. Scope Note/Definition (370 Character Limit)
SCOPE_ CHILDREN OF COMPULSORY SCHOOL AGE WHO HAVE BEEN EXCUSED FROM ATTENDING SCHOOL, OR ADOLESCENTS OVER 16 YEARS OF AGE WHO ARE OUT OF SCHOOL LEGALLY (NOTE: COORDINATE WITH AN APPROPRIATE AGE OR EDUCATIONAL LEVEL DESCRIPTOR)
Act.

1. Main Term (50 Character Limit)
TERM_ SECOND LANGUAGES
2. Group Code
GROUP_ 450
Act.
3. Scope Note/Definition (370 Character Limit)
SCOPE_ ANY LANGUAGES OTHER THAN ONE'S NATIVE OR MOTHER TONGUE, USUALLY LEARNED BY FORMAL INSTRUCTION (NOTE: PRIOR TO MAR80, THE INSTRUCTION "FOREIGN LANGUAGES, USE LANGUAGES" WAS CARRIED IN THE THESAURUS)
Act.

1. Main Term (50 Character Limit)
TERM_ WIND (METEOROLOGY)
2. Group Code
GROUP_ 490
Act.
3. Scope Note/Definition (370 Character Limit)
SCOPE_ THE NATURAL MOTION OF AIR (NOTE: DO NOT CONFUSE WITH "AIR FLOW")
Act.

d. Cross-References (Fields #4 - #7)

Necessary cross-references must accompany all new term recommendations. The Vocabulary Development Form carries these cross-references in the same order that they are found in the *Thesaurus*, thereby minimizing confusion both in structuring and evaluating a recommended display. ERIC uses the standard cross-references found in most contemporary information retrieval thesauri---compatible with those recommended by the American National Standard *Guidelines for the Construction, Format, and Maintenance of Monolingual Thesauri*

(ANSI/NISO Z39.19-199X).* These cross-references include the following:

(1) Used For (UF) Terms

See rules for UF (Used For)/USE References, item D.5.

A UF reference is a synonym or variant form of the main term and is not used in indexing. Its mandatory reciprocal is the USE reference. UFs are entered in field 4, as in this example:

1. Main Term (50 Character Limit)

TERM_	COMPUTER SOFTWARE DEVELOPMENT	

4. Used For (i.e., Synonyms and Other Nonpreferred Terms)

			Act.
UF_	COMPUTER SOFTWARE DESIGN		
	COMPUTER SOFTWARE ENGINEERING		
	COMPUTER SOFTWARE MAINTENANCE		
	COURSEWARE DEVELOPMENT #		
	SOFTWARE DEVELOPMENT (COMPUTERS)		

The fourth entry in this example is followed by a pound sign (#), indicating a multiple UF and signifying that two or more main terms must be coordinated in order to index or retrieve that concept. Multiple UFs must be entered under each main term to be used in the coordination. In the above instance, a second Vocabulary Development Form is required, as follows:

1. Main Term (50 Character Limit)

TERM_	COURSEWARE	

4. Used For (i.e., Synonyms and Other Nonpreferred Terms)

			Act.
UF_	COURSEWARE DEVELOPMENT #		

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*Proposed 1990 revision of ANSI Z39.19-1980. Developed by the National Information Standards Organization (NISO); circulated 1/10/90 among NISO voting members for comment.

(2) Narrower Terms (NT)

See rules for Narrower Terms (and Broader Terms), item D.6.

The NT represents an indexable subclass of the concept represented by the main term; the indexable NT achieves ERIC's goal of "subject-specific" indexing. Its mandatory reciprocal is the "Broader Term." NTs are entered in field 5, as in the following example:

1. Main Term (50 Character Limit)

TERM_	MATHEMATICS	

5. Narrower Terms

			Act.
NT_	ALGEBRA		
	ARITHMETIC		
	CALCULUS		
	GEOMETRY		
	PROBABILITY		
	STATISTICS		
	TECHNICAL MATHEMATICS		
	TRIGONOMETRY		

NTs are entered only at the next lower level of hierarchy. Terms such as ADDITION (NT to ARITHMETIC) and SOLID GEOMETRY (NT to GEOMETRY) are NOT entered in the case above.

Particular care must be taken, when inserting a new term into the midst of an existing hierarchical string, to remove existing generic references and thereby avoid incorrect double entries. See item E.5.e.(3) for an explanation of how to deal with this problem.

(3) Broader Terms (BT)

See rules for Broader Terms (and Narrower Terms), item D.6.

The BT represents the broad conceptual class into which a main term is placed. Each Broader Term is an indexable concept and the mandatory reciprocal of an NT. BTs are entered in field 6, as follows:

1. Main Term (50 Character Limit)

TERM_	PHYSICIANS	

6. Broader Terms

			Act.
BT_	HEALTH PERSONNEL		
	PROFESSIONAL PERSONNEL		

BTs are entered only at the next higher level of hierarchy. PERSONNEL, the BT to both HEALTH PERSONNEL and PROFESSIONAL PERSONNEL, is NOT entered in the above example. To do so would create the "invalid hierarchy" seen below. Illustrated also is the correct hierarchy in which PHYSICIANS appears twice; this is legitimate since there is no direct hierarchical relationship between HEALTH PERSONNEL and PROFESSIONAL PERSONNEL.

INVALID HIERARCHY	CORRECT HIERARCHY
PERSONNEL	**PERSONNEL**
.Health Personnel	.Health Personnel
..Physicians	..Physicians
.Physicians	.Professional Personnel
.Professional Personnel	..Physicians
..Physicians	

(4) **Related Terms (RT)**

See rules for Related Terms, item D.7.

The RT is an indexable concept that is closely associated with a main term, but is neither equivalent (UF/USE) nor hierarchical (NT/BT). Part-whole relationships, near-synonyms, and other conceptually related terms, of obvious benefit to indexers and searchers, appear as RTs. RTs are reciprocally related in the *Thesaurus*. They are entered in field 7, as shown below:

1. Main Term (50 Character Limit)

TERM_	AGENDA SETTING	

7. Related Terms

			Act.
RT_	AUDIENCE ANALYSIS		
	AUDIENCE RESPONSE		
	BIAS		
	COMMUNICATION (THOUGHT TRANSFER)		

	FREEDOM OF INFORMATION		
	INFORMATION DISSEMINATION		
	INFORMATION SOURCES		
	MASS MEDIA		
	MASS MEDIA EFFECTS		
	MASS MEDIA ROLE		
	NEWS MEDIA		
	NEWS REPORTING		
	PERSUASIVE DISCOURSE		
	POLICY FORMATION		
	POLITICAL INFLUENCES		
	PRESS OPINION		
	PUBLIC OPINION		

Only relatively close relationships need be cross-referenced as RTs, and unnecessary proliferation should be avoided. See the guidelines in item D.7 on avoiding RT proliferation.

e. **Special Note on Cross-Reference Reciprocals**

It is not necessary for the preparer of a Vocabulary Development Form to generate cross-reference reciprocals, as this is done automatically by the ERIC *Thesaurus* software. Examples of this capability follow:

ENTERED VIA FORM	GENERATED VIA COMPUTER
MANAGEMENT GAMES UF BUSINESS GAMES	BUSINESS GAMES USE MANAGEMENT GAMES
INTERACTION NT GROUP DYNAMICS	GROUP DYNAMICS BT INTERACTION
SPEECH BT LANGUAGE ARTS	LANGUAGE ARTS NT SPEECH
NEIGHBORHOODS RT SUBURBS	SUBURBS RT NEIGHBORHOODS

Of the examples in the right column, only the USE reference cannot also be entered via the Vocabulary Development Form. (USE references can only be generated reciprocally via the entry of a UF.) Even if a computer-generated NT, BT, or RT is also input inadvertently with a form, the *Thesaurus* software prevents invalid double entry of a term in a single field.

However, the software does not detect invalid cross-referencing of the same term in different fields (i.e., the same term could be filed both as an NT and BT, NT and RT, or BT and RT). In fact, a term can be cross-referenced with itself. Obviously, care must be taken to avoid these illogical relationships.

The software also prevents an existing UF from being filed as a main term, and vice versa; therefore, the above problem of double filing across fields does not extend to the UFs.

5. Modifying Existing Term

After a Descriptor has been entered into the *Thesaurus* file, it may be necessary to correct errors or omissions in its cross-references or to reflect subsequent changes in its application. Modifications to an existing term's Group Code, Scope Note, and/or cross-references may be made by entering a "✓" or "X" in the "MODIFYING EXISTING TERM" box at the top of the Vocabulary Development Form's front side, as shown:

† ☐ ADDING NEW TERM
* ☒ MODIFYING EXISTING TERM
† ☐ PURGING EXISTING TERM
† See reverse side of form for special instructions.
* Action Codes for Modifications Only.
A - ADD C - CHANGE D - DELETE

This reminds the indexer (preparer) to use the Action Codes A, C, and D for recommending specific changes and alerts the Facility Lexicographer to the purpose of the submittal.

For all *Thesaurus* modifications, the preparer should indicate the main term and ONLY those elements of the term's display that he/she wishes to change. Elements not being changed should NOT be shown.

a. Action Codes

Action Codes are provided for the convenience of the preparer, permitting all add, change, and delete modifications recommended for a single Descriptor to be recorded on one Vocabulary Development Form. (In actuality, the *Thesaurus* system requires separate transactions for the add, change, and delete commands, and combinations of these must be separated and sequenced by the Lexicographer, as appropriate, before implementation.)

The Action (Act.) boxes on the form are used to record Action Codes. Use of each of the three (3) codes is described below.

(1) Add

The code for adding an element to a term's display is the letter A. This indicates that the coded item is to be entered in an empty field, or, if there are already entries in the field, that the coded item is to be added to these. The A code is most frequently used in the cross-reference fields (fields 4 through 7). It should be used in recommending a Scope Note (field 3) only when that field is not currently occupied. It cannot be used for a Group Code (field 2), since that field is never empty and accommodates a single code only.

(2) **Delete**

The code for deleting an element from a term's display is the letter D. This indicates that the coded item is to be deleted from the field it occupies. The D code is most useful for recommending the deletion of a specific cross-reference (fields 4 through 7). It can also be used to recommend the elimination of an existing Scope Note (field 3), when it has been determined that the Scope Note is unnecessary. It cannot be used for a Group Code (field 2).

(3) **Change**

The code for changing an entire existing field is the letter C. This indicates that ALL data existing in a particular field is to be removed and replaced with the new data provided on the Vocabulary Development Form. The C code is used most often to change a Group Code (field 2) or a Scope Note (field 3). However, it may also be used to recommend complete changes in cross-reference fields (fields 4 through 7), i.e., when the recommended changes are so extensive that it is easier to enter the result desired than to treat each entry separately. When using the C code, it is important to remember that ALL information that is to appear in the field must be included on the input form.

b. Group Code Changes

Recommended Group Code changes are entered using the C code. (A and D codes are never used for Group Code changes.) Example:

1. Main Term (50 Character Limit)	2. Group Code	Act.
TERM_ MICROCOUNSELING	GROUP_ 240	C

c. Scope Note Changes

The A code is used to recommend a Scope Note when one did not previously exist. Example:

1. Main Term (50 Character Limit)

TERM_ PREREADING EXPERIENCE

2. Group Code

GROUP_

Act.

3. Scope Note/Definition (370 Character Limit)

SCOPE_ PRESCHOOL INCIDENTAL LEARNING THAT PREPARES CHILDREN FOR READING (NOTE: USE "READING READINESS" FOR FORMAL PREREADING TRAINING -- PRIOR TO SEP80, THE USE OF THIS TERM WAS NOT RESTRICTED BY A SCOPE NOTE)

Act. A

The C code is used to recommend the replacement of an existing Scope Note with a new Scope Note (provided on the form). Example:

1. Main Term (50 Character Limit)

TERM_ PROJECTS (1966 1980)

2. Group Code

GROUP_

Act.

3. Scope Note/Definition (370 Character Limit)

SCOPE_ INVALID DESCRIPTOR -- SEE "PROGRAMS" AND ITS HIERARCHY (I.E., NARROWER TERMS "RESEARCH PROJECTS," "PILOT PROJECTS," ETC.)

Act. C

The D Code recommends that the Scope Note on the form be expunged from the file. Example:

1. Main Term (50 Character Limit)

TERM_ ART TEACHERS

2. Group Code

GROUP_

Act.

3. Scope Note/Definition (370 Character Limit)

SCOPE_ TEACHERS OF ONE OR MORE OF THE VISUAL ARTS

Act. D

d. Used For (UF) Changes

Nonpostable "synonyms," i.e., USE references, may not be entered directly. The addition of a USE reference must be accomplished by submitting a form on the main term to which it will be cross-referenced. If, for example, it is desired to provide the entry MIDLIFE, USE MIDDLE AGED ADULTS, a form would be submitted as follows:

1. Main Term (50 Character Limit)

TERM_	MIDDLE AGED ADULTS	

4. Used For (i.e., Synonyms and Other Nonpreferred Terms)

			Act.
UF_	MIDLIFE		A

The deletion of a USE reference is accomplished as follows:

1. Main Term (50 Character Limit)

TERM_	AUTO MECHANICS	

4. Used For (i.e., Synonyms and Other Nonpreferred Terms)

			Act.
UF_	SMALL ENGINE MECHANICS		D

If a USE reference is to be made a main term, a separate form deleting the USE reference must accompany the form for the new Descriptor. Also, the new Descriptor should be identified in its Scope Note as a former USE reference (see item C.1.e.(4)).

In adding or deleting "multiple UFs," a separate Vocabulary Development Form must be prepared for each Descriptor used (or to be used) in the coordination. Additionally, each entry of a multiple UF on the forms must be followed by the pound sign (#).

e. Hierarchical (NT/BT) Changes

Extreme care should be exercised in making changes to Narrower and Broader Terms to ensure that hierarchical validity is maintained. The following examples will illustrate some of the problems that can occur and how they can be solved.

(1) Broader Term (BT) Changes

Assume that the term MEDICAL ASSISTANTS has the two BTs HEALTH PERSONNEL and PARAPROFESSIONAL PERSONNEL. Upon examination, it is determined that ALLIED HEALTH PERSONNEL would be the more appropriate BT, allowing the existing BTs to be deleted since both appear in the ALLIED HEALTH PERSONNEL display. The required changes would be entered as follows:

1. Main Term (50 Character Limit)

TERM_	MEDICAL ASSISTANTS	

6. Broader Terms

			Act.
BT_	ALLIED HEALTH PERSONNEL		A
	HEALTH PERSONNEL		D
	PARAPROFESSIONAL PERSONNEL		D

Note that HEALTH PERSONNEL, BT to ALLIED HEALTH PERSONNEL, must be deleted to prevent an invalid double appearance of MEDICAL ASSISTANTS in the hierarchy. In the example, the same end result could have been accomplished as follows:

1. Main Term (50 Character Limit)

TERM_	MEDICAL ASSISTANTS	

6. Broader Terms

			Act.
BT_	ALLIED HEALTH PERSONNEL		C

Since the Change transaction first clears the field and then replaces it with the new information, it is not necessary to enter specific Deletes for HEALTH PERSONNEL and PARAPROFESSIONAL PERSONNEL.

(2) Narrower Term (NT) Changes

Assume that examination of the NTs for STUDENTS shows that STUDENT VOLUNTEERS has been omitted from the list, and that STUDENT-TEACHERS erroneously carries both COLLEGE STUDENTS and STUDENTS as BTs. The required changes would be entered as follows:

1. Main Term (50 Character Limit)

TERM_	STUDENTS	

5. Narrower Terms

			Act.
NT_	STUDENT TEACHERS		D
	STUDENT VOLUNTEERS		A

In this case, the Change transaction would not be used because of the large number of terms in this field that are being retained (i.e., not being changed). The result could, of course, have been accomplished by Broader Term changes to STUDENT TEACHERS and STUDENT VOLUNTEERS, but this would have required two input forms. Without additional modifications taking place, the above approach would be preferred.

(3) Hierarchical Insertions

When a new term is inserted in the middle of an existing hierarchical string, it is usually necessary to prepare a second Vocabulary Development Form in order to prevent invalid double entries in the hierarchy. For example, assume it becomes desirable to collect several of the NTs to AFRICAN LANGUAGES under a new Descriptor MANDE LANGUAGES. The NT/BT structure of the new term might be as follows:

1. Main Term (50 Character Limit)

TERM_	MANDE LANGUAGES	

5. Narrower Terms

			Act.
NT_	DYULA		
	MANDINGO		
	MENDE		
	SUSU		

6. Broader Terms

			Act.
BT_	AFRICAN LANGUAGES		

If only this addition was made to the *Thesaurus* file, all of the NTs to MANDE LANGUAGES would show both that Descriptor and AFRICAN LANGUAGES as BTs, creating improper double references in the hierarchical display of AFRICAN LANGUAGES. Therefore, a second input form modifying AFRICAN LANGUAGES must accompany the one adding the new term. The modification, in this case, would appear as follows:

1. Main Term (50 Character Limit)

TERM_	AFRICAN LANGUAGES

5. Narrower Terms

		Act.
NT_	DYULA	D
	MANDINGO	D
	MENDE	D
	SUSU	D

f. Related Term (RT) Changes

Recommendations for RT changes can be made by adding and/or deleting terms from the field as necessary.

1. Main Term (50 Character Limit)

TERM_	VICTIMS OF CRIME

7. Related Terms

		Act.
RT_	DEATH	D
	MALPRACTICE	A
	PATIENTS	D
	REHABILITATION	A
	WAR	D

However, use of the Change transaction is advisable if extensive modifications are recommended:

1. Main Term (50 Character Limit)

TERM_	DESIGN CRAFTS	

7. Related Terms

			Act.
RT_	CERAMICS		C
	CLOTHING DESIGN		
	CRAFT WORKERS		
	DESIGN		
	FURNITURE DESIGN		
	HANDICRAFTS		
	INDUSTRIAL DESIGN		
	SKILLED OCCUPATIONS		

g. "Across-Field" Modifications

Care should be taken to avoid invalid double cross-references when moving terms between fields. Before cross-references are added to a field, each should be checked to assure they are not retained in another field. Across-field modifications can be entered on the same input form, as follows:

1. Main Term (50 Character Limit)

TERM_	INFORMATION DISSEMINATION	

6. Broader Terms

			Act.
BT_	INFORMATION SERVICES		A
	INFORMATION UTILIZATION		D

7. Related Terms

			Act.
RT_	INFORMATION SERVICES		D
	INFORMATION UTILIZATION		A

6. Purging Existing Term

A "purge" is used for recommending the total discontinuance of an indexable term. A "✓" or "X" should be entered in the "PURGING EXISTING TERM" box at the top of the Vocabulary Development Form's front side:

† ☐ ADDING NEW TERM
* ☐ MODIFYING EXISTING TERM
† ☒ PURGING EXISTING TERM
† See reverse side of form for special instructions.
* Action Codes for Modifications Only.
A - ADD C - CHANGE D - DELETE

This reminds the indexer (preparer) to check the back of the form for special instructions and alerts the Facility Lexicographer to the purpose of the submittal.

After checking the purge box, the term to be purged is entered in Field #1, the "main term" line. Fields 2 through 7 are NOT used when purging a term. Example:

1. Main Term (50 Character Limit)	2. Group Code	Act.
TERM_ DRAFTERS	GROUP_	

No other elements need be entered because a "purge" command automatically deletes a term's complete display and all of its reciprocal cross-references from the *Thesaurus* file.

Descriptor purges are based on, and necessitated by, one of two factors:

(1) changes occurring in the literature of the system;

(2) situations of ambiguity, synonymity, and inutility discovered in the vocabulary.

Because purges have an immediate and significant impact on searching, a decision on what to do with a term's existing postings must accompany all purge recommendations. The following alternatives are available, but, before considering them, the indexer should be familiar with the guidelines for Former Main Terms, item D.2.e of this section.

a. Transfer to New Term

This alternative is used for word form corrections, including the replacement of obsolete, incorrect, or unnecessarily specific terminology.

Examples: Transfer postings on CEREBRAL DOMINANCE
to (new term) BRAIN HEMISPHERE FUNCTIONS

Transfer postings on MANPOWER DEVELOPMENT
to (new term) LABOR FORCE DEVELOPMENT

Transfer postings on NAVAHO
to (new term) NAVAJO

Transfer postings on WATER POLLUTION CONTROL
to (new term) WATER POLLUTION

Each of the above situations involves the creation of a new Descriptor, and two Vocabulary Development Forms are required to complete each transaction. In most cases, the need for purging a Descriptor and transferring its postings to a new word form can be demonstrated in an examination of the titles posted to the concept. Database searches should be conducted to statistically test the validity of such changes. (Relying on one's indexing experience is not enough.) Statistical evidence and available supporting evidence from authorities should be gathered and submitted on the back of, or attached to, the Vocabulary Development Forms. Justification should include comments on the equivalency of the old and new expressions, and on shifts in emphasis and meaning.

Transferred Descriptors must be identified in the *Thesaurus* by parenthetical "life span" notations, e.g., "(1966 1980)." They are entered as UFs to the Descriptors to which they are transferred. Using the first example above, the Vocabulary Development Form for the new term BRAIN HEMISPHERE FUNCTIONS would include the following entries:

1. Main Term (50 Character Limit)

TERM_	BRAIN HEMISPHERE FUNCTIONS	

4. Used For (i.e., Synonyms and Other Nonpreferred Terms)

			Act.
UF_	CEREBRAL DOMINANCE (1967 1986)		
	HEMISPHERIC SPECIALIZATION (BRAIN)		

The UF HEMISPHERIC SPECIALIZATION (BRAIN) is a "carryover" from the former Descriptor CEREBRAL DOMINANCE.

(See also "Transferred Descriptors" discussion under "UF (Used For)/USE References," item D.5 of this section.)

b. **Simple Merge**

This alternative is used for the merging of synonyms, of near-synonyms (where one is not warranted or where the terms are synonymous for purposes of retrieval), and of very lightly posted terms.

Examples: Transfer postings on TEACHER RATING
to TEACHER EVALUATION

Transfer postings on UNEMPLOYED
to UNEMPLOYMENT

Transfer postings on GIRLS CLUBS
to YOUTH CLUBS

"Simple merge" transactions also require two Vocabulary Development Forms, one to first purge the unwanted term and a second to update the display of the retained term. The form for the retained (receiving) Descriptor should include a "life span" UF for the deleted term (see example of BRAIN HEMISPHERE FUNCTIONS and CEREBRAL DOMINANCE in the previous section), any of the deleted term's UFs that are needed to maintain access, and any other cross-reference or Scope Note modifications that are needed to reflect conceptual changes stemming from the transfer. Copies of subject index pages, printouts of searches, and evidence from authorities should be attached to the input forms to demonstrate the usefulness of such changes. In the justification, the indexer should explain the retention/deletion decision and comment on the following as appropriate:

- statistical effect of the merger on future postings;
- any distinguishing differences in meaning or usage between the terms; and
- possibilities for separate retrieval by computer where differences exist.

(See also discussion on synonymity, "Is It a Synonym?," item C.1.d of this section.)

(SPECIAL NOTE: The mere fact of infrequent use is not an adequate justification for purging a lightly posted term. Unless lightly posted terms can be transferred to other meaningful Descriptors without information loss, it is usually best to leave them alone.)

c. Multiple Merge

This alternative is used to eliminate multiple synonyms or to gather several lightly posted NTs under an existing or new BT.

Examples: Transfer postings on FOOD SERVICE INDUSTRY, FOOD SERVICE OCCUPATIONS, and FOOD SERVICE WORKERS to FOOD SERVICE

Transfer postings on GROUPING PROCEDURES, SORTING PROCEDURES, TAXONOMY, and TYPOLOGY to CLASSIFICATION

A separate Vocabulary Development Form is required for each term involved in a multiple merge transaction, whether being purged or retained. As with alternatives "a" and "b" above, "life span" UFs must be included on the forms of the retained Descriptors, as well as necessary "carryover" cross-references and other data from the deleted displays. Justification should include statistical evidence from the postings and definitional/structural evidence from authorities.

d. Term Split

This alternative allows the transfer of low-use terms to two (or more) more general terms, when a one-to-one transfer (either to a BT or RT) would result in information loss. The receiving terms can then be coordinated to retain specificity.

Examples: Transfer COMMUNITY SCHOOL DIRECTORS
to ADMINISTRATORS and COMMUNITY SCHOOLS

Transfer AFTER SCHOOL TUTORING
to AFTER SCHOOL EDUCATION and TUTORING

Transfer BOOK THEFTS
to BOOKS and STEALING

Again, a separate Vocabulary Development Form must be prepared for each term involved. However, this type of transaction requires that the UF for the purged Descriptor be entered as a new "multiple UF," as in the following example:

1. Main Term (50 Character Limit)

TERM_	AFTER SCHOOL EDUCATION	

4. Used For (i.e., Synonyms and Other Nonpreferred Terms)

			Act.
UF_	AFTER SCHOOL TUTORING (1966 1980) #		A

1. Main Term (50 Character Limit)

TERM_	TUTORING	

4. Used For (i.e., Synonyms and Other Nonpreferred Terms)

			Act.
UF_	AFTER SCHOOL TUTORING (1966 1980) #		A

(Note that on both input forms, the A action code was used because the receiving terms are existing Descriptors.)

(See discussion on "Multiple UFs" in item D.5.e of this section.)

In justifying "term splits," the preparer should comment on other alternatives for transfer and the reasons for wanting the "multiple UF," the appropriateness of the postings to each of the recipient terms, and the effects of the "multiple UF" on manual retrieval.

e. Postings Split

This alternative is used when an existing term has been employed for different concepts, either because it is a homograph or because of indexing misuse.

Examples: Transfer postings on FRESHMEN
to either COLLEGE FRESHMEN or
HIGH SCHOOL FRESHMEN

Transfer postings on ANIMAL SCIENCE
to either ANIMAL HUSBANDRY or ZOOLOGY

Every "postings split" requires some manual reindexing. Before this can occur, however, the postings for each indexable meaning of a "split" must be isolated. For example, the records posted to FRESHMEN would need to be separated into at least two sets---those pertaining to COLLEGE FRESHMEN and those pertaining to HIGH SCHOOL FRESHMEN. Computer searching is required for isolating these sets; the following search strategies might be employed:

Set #1—COLLEGE FRESHMEN

FRESHMEN and (HIGHER EDUCATION or TWO YEAR COLLEGES or COLLEGE STUDENTS or TWO YEAR COLLEGE STUDENTS)

Set #2—HIGH SCHOOL FRESHMEN

FRESHMEN and (HIGH SCHOOLS or JUNIOR HIGH SCHOOLS or HIGH SCHOOL STUDENTS or JUNIOR HIGH SCHOOL STUDENTS or GRADE 9)

The possibility of some records that pertain to multiple subsets of meaning (in this example, to both Set #1 and Set #2) should not be overlooked, i.e.:

Set #3—Both COLLEGE FRESHMEN and HIGH SCHOOL FRESHMEN

(Set #1 Results) and (Set #2 Results)

Since the precision of search "hits" is dependent on the search strategy employed, as well as the original indexing, it is always best to "eyeball" the individual records in each set to ensure their accuracy. Once this check and necessary adjustments are made, the preparer of the Vocabulary Development Form can list his/her recommendations for manual reindexing. This may be done on the back of the form (under the check box that reads "transfer postings to______, excluding:______") or on the copy of the search submitted with the form.

Assume that the three searches on FRESHMEN produced the following numbers of hits: 100 in Set #1, 40 in Set #2, and 10 in Set #3. Sets #2 and #3 have fewer hits and are, therefore, the logical choices in this example for manual reindexing. Thus, FRESHMEN needs to be deleted from, and HIGH SCHOOL FRESHMEN added to, each record in Sets #2 and #3. Other indexing errors and inconsistencies in these records could, of course, be recommended as well. Four sets of transactions are normally required for manual reindexing: Delete EDs, Delete EJs, Add EDs, and Add EJs. An example for each set is given below:

```
DELETE_EDxxxxxx
DESC_Freshmen

DELETE_EJxxxxxx
DESC_Freshmen; High School Students

ADD_EDxxxxxx
DESC_High School Freshmen

ADD_EJxxxxxx
DESC_*High School Freshmen; High Schools
IDEN_Florida; *As You Like It
```

Delete transactions need not show whether a term is major or minor, i.e., preceded or not preceded by an asterisk (*); all asterisks are ignored by the Delete transaction process. Add transactions, on the other hand, must include the asterisk if the Descriptor (or Identifier) is to be a major term in the reindexed record. In the above examples, HIGH SCHOOL FRESHMEN will be a minor Descriptor in the ED (RIE) record and a major Descriptor in the EJ (CIJE) record. Terms other than FRESHMEN and HIGH SCHOOL FRESHMEN in these examples represent typical additional reindexing recommendations desired by the reviewer (preparer of the Vocabulary Development Form).

All recommended manual reindexing is reviewed by the Facility lexicographic staff and, when approved, is keyed, proofed, and released to the ERIC master files. Continuing with the example of FRESHMEN, once manual reindexing for the 50 hits of Sets #2 and #3 is accomplished, the remaining 100 hits in Set #1 can be updated using ERIC's "Transfer-and-Delete" program. This program requires only one transaction to remove FRESHMEN from the 100 remaining records and to add COLLEGE FRESHMEN to each, while retaining major/minor designators intact.

All manual reindexing recommendations for postings splits should accompany the Vocabulary Development Forms submitted for the terms to be purged. Additional forms are required to retain the transferred Descriptors as USE references. Terms whose postings are split should be entered as USE references in one of two ways:

- A "split" homograph is entered as a UF under all of the other Descriptors that were used to break down its postings and multiple meanings. Split homographs carry parenthetical life span notations as other transferred Descriptors do. Additionally, however, each must carry a second qualifier that will limit its meaning to the particular context of the main term or Descriptor under which it is entered. The following examples show the ultimate disposition of the split homograph FRESHMEN:

Indexer-Generated UFs (entered on Vocabulary Development Forms)	Computer-Generated Reciprocals
COLLEGE FRESHMEN UF FRESHMEN (1967 1980) (FIRST YEAR COLLEGE STUDENTS)	FRESHMEN (1967 1980) (FIRST YEAR COLLEGE STUDENTS) USE COLLEGE FRESHMEN
HIGH SCHOOL FRESHMEN UF FRESHMEN (1967 1980) (GRADE 9)	FRESHMEN (1967 1980) (GRADE 9) USE HIGH SCHOOL FRESHMEN

Definitional qualifiers for split homographs always follow the life span notations. This structure is used because such qualifiers were not part of the original Descriptors. (Qualifiers that were part of original Descriptors precede the life span notations.)

- Purged terms whose postings are split because of misuse in indexing should normally be carried as single or multiple UFs under those Descriptors that best reflect how the purged terms should have been used (had they been used correctly). The purged Descriptor ANIMAL SCIENCE is an example of this situation.

ANIMAL SCIENCE is a branch of agriculture concerned with "the breeding and husbandry of agricultural animals, and the production, processing, and distribution of agricultural animal products" (Classification of Instructional Programs, National Center for Education Statistics, 1991). It had been structured in the AGRICULTURE hierarchy of the ERIC *Thesaurus* and should have been used exclusively in that sense. Its usage by indexers for the biological science of ZOOLOGY is not supported by lexicographic authorities nor by the educational literature. ANIMAL SCIENCE, therefore, cannot be considered as a "split" homograph, although its former postings were split between ANIMAL HUSBANDRY and ZOOLOGY. Only one USE reference presently appears in the *Thesaurus* to indicate the existence of this former Descriptor, i.e.:

ANIMAL HUSBANDRY UF ANIMAL SCIENCE (1967 1980)	ANIMAL SCIENCE (1967 1980) USE ANIMAL HUSBANDRY

This single USE reference may not tell the whole story of this former Descriptor's usage, but additional *Thesaurus* entries for the term are not justified by either authorities or the literature.

f. "Dead" or Invalid Term Option

This option is used for purging unwanted Descriptors that, because of inconsistent usage over time, are not readily transferrable. "Dead term" status puts a hold on former Descriptors, preventing their further use in indexing and allowing them to be set aside for examination and possible reindexing at a later date.

A minimum input of two Vocabulary Development Forms is required. One form is used for the purge transaction (see back of form for check box that reads "postings are not transferrable"). The term is then reentered on the second form as an invalid/"dead" Descriptor, e.g.:

† ☒ ADDING NEW TERM
• ☐ MODIFYING EXISTING TERM
† ☐ PURGING EXISTING TERM

1. Main Term (50 Character Limit)	2. Group Code	Act.
TERM_ READING LEVEL (1966 1980)	GROUP_ 460	

3. Scope Note/Definition (370 Character Limit)

SCOPE_ INVALID DESCRIPTOR – USED FOR BOTH THE READING LEVEL OF PEOPLE AND THE READABILITY LEVEL OF			
MATERIALS – SEE "READING ACHIEVEMENT" AND "READABILITY" RESPECTIVELY FOR THESE CONCEPTS			
		Act.	

Since their postings have not been transferred, invalid Descriptors are reentered as main terms rather than as UFs. Like transferred Descriptors, invalid Descriptors carry life span notations, which indicate the period of time these terms were used in indexing, make their "dead" status easily identifiable in all *Thesaurus* displays, and effectively prevent their further use in indexing. Also, like other main terms, invalid Descriptors are assigned to one of the Descriptor Groups and carry Scope Notes intended to lead indexers and searchers to more precise or meaningful terminology. Unlike other main terms, however, invalid Descriptors carry none of the standard *Thesaurus* cross-references (i e., no UFs, NTs, BTs, nor RTs). (See item E.4, parts a, b, and c of this section for additional information.)

Although invalid Descriptors carry no standard cross-references, retrieval considerations sometime necessitate a reference to an invalid Descriptor in a preferred term's Scope Note. In the case of READING LEVEL, two additional Vocabulary Development Forms were prepared and submitted for this purpose, as follows:

1. Main Term (50 Character Limit)	2. Group Code	Act.
TERM_ READABILITY	GROUP_	

3. Scope Note/Definition (370 Character Limit)

SCOPE_ THE QUALITY OF READING MATTER THAT MAKES IT INTERESTING AND UNDERSTANDABLE TO THOSE FOR			
WHOM IT IS WRITTEN (NOTE: PRIOR TO JUN80, "READING DIFFICULTY" AND "READING LEVEL" WERE OCCASIONALLY			
USED TO INDEX THIS CONCEPT)			
		Act.	C

1. Main Term (50 Character Limit)	2. Group Code	Act.
TERM_ READING ACHIEVEMENT	GROUP_	

3. Scope Note/Definition (370 Character Limit)

SCOPE_ LEVEL OF ATTAINMENT IN ANY OR ALL READING SKILLS, USUALLY ESTIMATED BY PERFORMANCE ON A TEST			
(NOTE: PRIOR TO JUN80, "READING LEVEL" WAS OCCASIONALLY USED TO INDEX THIS CONCEPT)			
		Act.	A

Both READABILITY and READING ACHIEVEMENT were in the *Thesaurus* at the time READING LEVEL was made invalid; thus, the above entries were handled as "change" transactions (with a check in the box that reads "modifying existing term"). Notice the action codes "C" and "A" where "C" indicates a replacement Scope Note, while "A" is used to add a Scope Note where none existed previously. Also, notice the reference to READING DIFFICULTY in the READABILITY Scope Note; during the same *Thesaurus* update, both READING DIFFICULTY and READING LEVEL were made invalid because of inconsistent usage.

(See also discussions on "Invalid 'Dead' Descriptors" under "Main Terms" in item D.2 and "Ambiguous Usage" under "Scope Notes" in item D.4 of this section.)

g. **Transfer to Identifier Field**

This alternative permits those Descriptors that hindsight shows are more suitable as Identifiers to be reposted to the Identifier Field. There are several situations where this action is appropriate, i.e.:

- Highly specific proper nouns.

  Example: Move postings of CHAUTAUQUAS to Identifier Field

- Coined terminology.

  Example: Move postings of NUCLEATION (LANGUAGE LEARNING) to the Identifier Field

- Synonym of a "true" Identifier.
  (Note: A true Identifier is a subject concept used in indexing that does not qualify as a Descriptor---see item C.1.b of this section.)

  Example: Transfer the Descriptor SOUTHERN STATES to the Identifier UNITED STATES (SOUTH).

Only one Vocabulary Development Form is needed for Descriptor-to-Identifier transfers. The form should reflect the purge transaction, accompanied by specific transfer instructions and justification information that explains why the term is not a suitable Descriptor.

Descriptors transferred to Identifier synonyms are added as UFs to the *Identifier Authority List* (IAL) by the Facility lexicographic staff. Scope Notes reflecting such transfers may be added to the IAL, particularly if the former Descriptor was heavily posted.

Descriptor-to-Identifier transfers are extremely rare, comprising fewer than 10 instances in ERIC's first 25 years. Another purge alternative is almost always more suitable.

h. Simple Delete

A final alternative for purging a Descriptor is to expunge all references to it from the *Thesaurus* and all of its postings from the database. Like Descriptor-to-Identifier transfers, "simple deletes" are generally not recommended and should be restricted to the following instances:

- Little-used ambiguous terms that encompass no appreciable subject content.

  Examples: ADVANCED SYSTEMS; LIMITED EXPERIENCE; NONFARM YOUTH.

- Little-used highly specific terms whose existence cannot be justified because there is little or no data in ERIC on the subjects they represent.

  Examples: BIRACIAL GOVERNMENT; CABINET TYPE PROJECTORS; HORIZONTAL TEXTS.

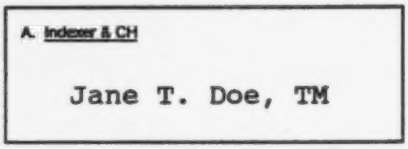
Only one Vocabulary Development Form is required for a "simple delete." However, a search must be attached that shows that each individual posting of the term was checked for alternate retrievability. Other Descriptors should be recommended for all records that need compensatory reindexing.

7. "Justification Information" Section

This section of the Vocabulary Development Form lists the requirements for justifying all *Thesaurus* transactions (whether new term, change, or purge). As an aid to the preparer, specific instructions accompany some of the information blocks. There are six information blocks, labeled A-F.

a. **Indexer & CH**

Preparer's name and organizational affiliation are entered. For Clearinghouses, enter indexer's name and Clearinghouse prefix.

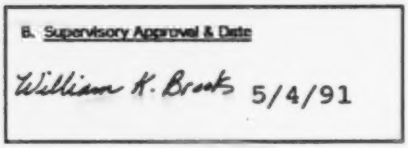


A. Indexer & CH

Jane T. Doe, TM

b. **Supervisory Approval & Date**

Preparer's supervisor signs and dates the form. For Clearinghouses, the form must be examined by and have the signature of the Clearinghouse Vocabulary Coordinator (or his/her designated representative).



B. Supervisory Approval & Date

William K. Brooks 5/4/91

c. **Personal Contacts**

This block is subdivided into "Clearinghouse Consultation" and "Other Personal Contacts." Education encompasses wide-ranging subject fields, and ERIC serves a highly diversified user community. Adequate consultation on *Thesaurus* transactions among ERIC's subject-specialty Clearinghouses is necessary in order to avoid parochial points of view. Any transactions on a particular term must be considered from the viewpoints of all those Clearinghouses that may frequently use the term or whose scope areas cover the subject conveyed by the term. Subject specialists, within or outside a particular Clearinghouse, are often contacted with reference to *Thesaurus* transactions. The form reminds the preparer to list such contacts and give their reactions.

The form should list individuals contacted at Clearinghouses, if other than designated Vocabulary Coordinators. Addresses and phone numbers of consultants outside of the Clearinghouses should be provided for lexicographic followup when necessary.

C. Personal Contacts

- Clearinghouse Consultation
  (List CHs contacted, and indicate agreement/disagreement; state reasons for disagreement.)

EA, HE, and SE
agree.

- Other Personal Contacts and Reactions

Scope Note
recommended by:
Linda E. Littlejohn
Dept. of Psychology
Univ. of XYZ

(214) 678-9100

d. Authorities Used

Authorities must always be cited for new Descriptors, or for redefining or merging existing Descriptors. Preparers should list all dictionaries, glossaries, and ERIC documents used in preparing Scope Notes, as well as the thesauri used to structure a term's display. The ERIC Facility maintains a "*Thesaurus* Bibliography" of frequently cited terminological references (see item B.6, "Lexicographic Authorities"). A minimum of three authorities must be cited for each definitional Scope Note prepared (see item E.4.c, "Scope Note/Definition (Field #3)").

Each Clearinghouse should copy its regularly used, core authorities on its copies of the form to avoid rekeying the same citations every time a form is completed. Citations, particularly of well-known authorities, may be abbreviated, and each should include the edition or year of publication. In listing core authorities on the form, Clearinghouses should leave enough space so that sources used less frequently, and special sources such as specific ERIC documents and journal articles, can be written or keyed in as needed.

Each authority examined for a specific transaction should be marked "X" or "O" ("Term Found" or "Term Not Found"). In this way, the Lexicographer at the Facility can avoid unnecessary rechecking of authorities that the preparer of the form has already checked. Copies of pertinent sections of journal articles and other special sources cited should be submitted with the form, as these may not be readily available to the Lexicographer; appropriate passages on these copies should be marked or highlighted. (See also item E.4.c.)

D. **Authorities Used**
(Citations of regularly used authorities may be copied onto the form.) Each authority used should be marked as: X = Term Found; O = Term Not Found.

O Random House Unabridged, 2nd ed
X A Women's Thesaurus, 1987
X British Education Thesaurus, 1988
X PsychAbs Thesaurus, 1991
O SocAbs Thesaurus, 1989
O CRS Thesaurus, 1990
O Natl Criminal Justice Thesaurus, 1990
☐ NASA Thesaurus, 1988
☐ MeSH, 1991
O SPINES Thesaurus, 1988
☐ NCES, Class. of Instructional Progs., 1991

O LC Subject Headings, 14th ed
O European Education (EUDISED) Thesaurus, 1984
☐ CINAHL Subject Heading List, 1992
O PAIS Subject Headings, 1990
O AgeLine Thesaurus, 1991
O American Educators' Encyc, 1982
X Educator's Desk Reference, 1989
X Encyc of Educational Research, 7th ed, 1982
X ED328397 – "Assessing Student Attitudes toward Heterogeneous Grouping: A Pilot Study"
X ED263492 – "Effects of Inter-Class Ability Grouping on Achievement and Self-Esteem"
☐

e. **Impact on *Thesaurus***

This information block asks the preparer to consider the basic pitfalls of a typical vocabulary transaction. These include homographs, overlapping concepts, and invalid hierarchical insertions. Thoughtful consideration of the factors listed on the form should help avoid indexing misuse and searching problems.

E. Impact on Thesaurus

Indicate potential impact of this transaction on hierarchies and other terms in the Thesaurus. Consider, particularly, any overlap with other terms. Homographs should be qualified; occasionally, additional forms, revising older scope notes and displays, will need to be submitted in order to avoid indexing misuse.

Candidate Descriptor is specific, unambiguous, and needed to index a concept appearing frequently in the contemporary literature of vocational education.

See attached search.

f. Impact on Database

The last "justification information" block covers the basic procedures that are necessary to assure compatibility at all times between the *Thesaurus* and the ERIC database. This compatibility is a stated ERIC policy (see item B.5, "Synchronization of Lexicography and Indexing") and represents a practice that is not often seen among other major database systems.

Where practicable, a comprehensive update of the database backfile is made whenever a *Thesaurus* term is either added or deleted. These updates lessen the complexities of computer searching, enhance retrieval, and promote user satisfaction with search results. Essentially, each preparer of a Vocabulary Development Form, usually a Clearinghouse indexer, is asked to do a computer search before finalizing his/her recommendation. The perspective of the searcher is an ingredient in all successful indexing, and the practice of researching *Thesaurus* transactions on the computer undoubtedly results in better indexing.

This practice, of course, requires that indexers have ready access to a computer with a modem. Users who are interested in recommending a *Thesaurus* change but without ready access to the ERIC database are requested to contact the Facility Lexicographer for assistance.

The following illustration shows the results of a typical comprehensive search for a new term recommendation. The new term in this case is MAGNET SCHOOLS. Seven (7) functions were performed in order to obtain these results:

1. Find word "magnet" in the Identifier Field.

2. Eliminate (manually) Identifiers retrieved that do not fit the Scope Note of MAGNET SCHOOLS (e.g., any pertaining to metallic attraction).

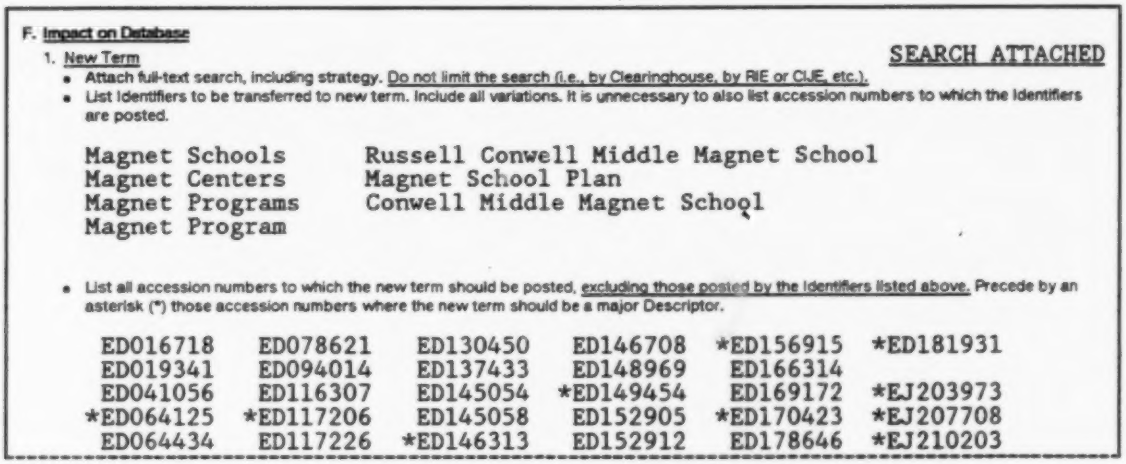
3. Repeat step #1 full-text (e.g., for titles and abstracts).

4. "Not out" step #1 results from step #3 results.

5. Repeat step #2 on results of step #4.

6. Evaluate the records remaining after step #5 to determine whether MAGNET SCHOOLS should be major or minor.

7. List results of step #2 (second bullet below) and step #6 (third bullet below).



F. Impact on Database

1. New Term

SEARCH ATTACHED

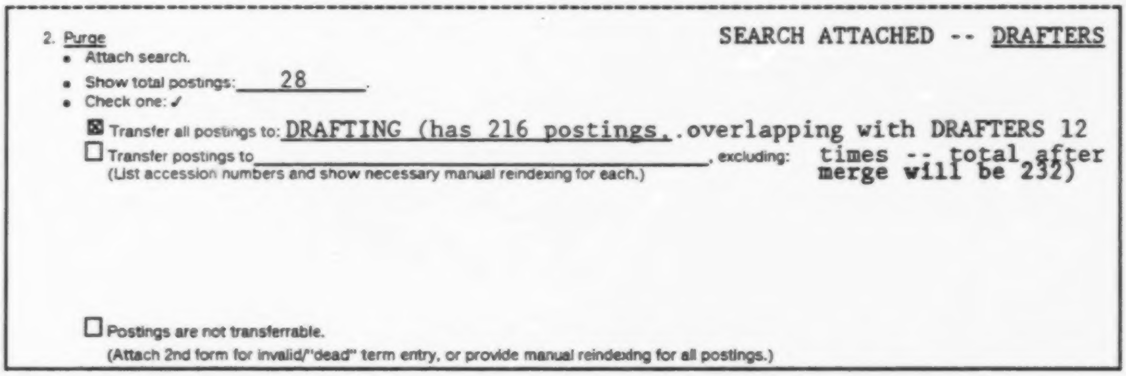
- Attach full-text search, including strategy. Do not limit the search (i.e., by Clearinghouse, by RIE or CIJE, etc.).
- List Identifiers to be transferred to new term. Include all variations. It is unnecessary to also list accession numbers to which the Identifiers are posted.

Magnet Schools
Magnet Centers
Magnet Programs
Magnet Program
Russell Conwell Middle Magnet School
Magnet School Plan
Conwell Middle Magnet School

- List all accession numbers to which the new term should be posted, excluding those posted by the Identifiers listed above. Precede by an asterisk (*) those accession numbers where the new term should be a major Descriptor.

```
 ED016718   ED078621   ED130450   ED146708  *ED156915  *ED181931
 ED019341   ED094014   ED137433   ED148969   ED166314
 ED041056   ED116307   ED145054  *ED149454   ED169172  *EJ203973
*ED064125  *ED117206   ED145058   ED152905  *ED170423  *EJ207708
 ED064434   ED117226  *ED146313   ED152912   ED178646  *EJ210203
```

The second part of this information block is used for delineating purge recommendations. There are eight alternatives for dealing with the postings of purged Descriptors, each of which is explained under item E.6, "Purging Existing Term." A choice among these alternatives will determine which among the form's three check boxes is appropriate. The example below shows a one-to-one transfer between two existing terms. As the example illustrates, liberal use of the form may be made for explanations and other notes.



2. Purge

SEARCH ATTACHED -- DRAFTERS

- Attach search.
- Show total postings: 28.
- Check one: ✓

☒ Transfer all postings to: DRAFTING (has 216 postings, overlapping with DRAFTERS 12 times -- total after merge will be 232)

☐ Transfer postings to ______, excluding:
(List accession numbers and show necessary manual reindexing for each.)

☐ Postings are not transferrable.
(Attach 2nd form for invalid/"dead" term entry, or provide manual reindexing for all postings.)

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8. Transmittal of Form

All completed Vocabulary Development Forms (with attachments) should be transmitted as they occur to the address at the bottom of the form's front side, i.e.:

Send form to:
ERIC Processing and Reference Facility
ATTN: Lexicographer
1301 Piccard Drive, Suite 300
Rockville, MD 20850-4305

Be sure to include search strategies and backfile change recommendations. Backfile changes may be recorded on the Vocabulary Development Forms themselves or, if that is not convenient, on search printouts. *Note: Unscrutinized or unedited ERIC printouts normally need not be sent, since the data they would contain is usually readily available both online and via CD-ROM to all ERIC staff. When sizable search results must be submitted, it is usually easier and more economical to use floppy disks (either 3½-inch or 5¼-inch disks are acceptable).*

To avoid confusion and delays, do not include Vocabulary Development Forms with RIE or CIJE shipments to the ERIC Facility.

Originators, whether Clearinghouses or external users, should retain copies of all Vocabulary Development Forms and related attachments for reference in case coordination is necessary.

9. ERIC Facility Processing

Upon receipt of a Vocabulary Development Form, the Facility Lexicographer performs a preliminary review to ensure compliance with the *ERIC Processing Manual*. If there is a significant problem, the originator of the input is contacted prior to entering the recommendation in the *Vocabulary Status Report* (VSR). The VSR is prepared every 1-6 months, but at least twice per year; it is a listing of all *Thesaurus* recommendations and serves as the medium for Vocabulary Review Group (VRG) evaluation and feedback. VSR recommendations approved by the VRG are entered in the *Thesaurus* and the ERIC database by the Facility lexicographic staff; the staff also prepares a periodic summation entitled *Thesaurus Changes and Statistical Data*, which serves as a *Thesaurus* supplement. All of these procedures are fully discussed in item "B.3" of this section, "Vocabulary Development Program."

ATTACHMENT #1

History of the Thesaurus of ERIC Descriptors[*]

The Western Reserve (WR) Studies

The ERIC feasibility studies funded by the Office of Education (OE) and conducted in the early 1960s by Western Reserve University led in June 1966 to a list of 4,500 terms in the subject area of educational media, structured in an array of broad facets such as activities, characteristics, and people, subdivided by subfacets, and further by numerous groups. The WR team of Gordon Barhydt, Charles Schmidt, & Kee Chang felt strongly that "...the establishment of useful and valid interterm relationships could be accomplished only by the conceptual analysis that is a prerequisite to faceting." This philosophy was supported by earlier classification works such as the American Petroleum Institute's Subject Headings, and The London Education Classification by D.J. Foskett, as well as early advocates such as Maurice Tauber and Oliver Lilley. The Barhydt & Schmidt faceted array thesaurus was published in 1968 by Case Western University Press under the title *Information Retrieval Thesaurus of Education Terms*.

Operation Fingertip and the "Disadvantaged Collection"

Another functional, but less elaborate, approach to thesaurus construction was being pursued in the mid-1960s by the Engineers Joint Council (EJC), the Department of Defense, and a COSATI indexing subpanel. This collaboration, under the rubric Project LEX, led in 1967 to the landmark *TEST Thesaurus*. ERIC followed the activities of Project LEX closely, and in this connection, contracted in 1964 a project called Operation Fingertip with Jonker Business Machines, Inc. Jonker, under Operation Fingertip, developed a "free indexing" core of 2,300 terms while indexing 1,700 ESEA Title I reports. The Central ERIC staff, under the direction of its chief lexicographer James Eller, then structured these terms, using a set of preliminary guidelines based on EJC conventions. The terms were then reviewed by a volunteer group of librarians, information specialists, and educators, and an interim or "Phase I" Thesaurus was made available in June 1966. The so-called "disadvantaged collection" became the first set of documents in the ERIC database. (See ED-070485, *Catalog of Selected Documents on the Disadvantaged: Subject Index*.)

Choosing the "Disadvantaged" Terms over the Western Reserve Facets

Central ERIC decided in mid-1966 to abandon Western Reserve's faceted array of terms and to go with the structured terms of the "disadvantaged collection." Why? The facets were thought to be somewhat inflexible. The new ERIC Facility contractor, North American Aviation, had used the EJC conventions to develop its own Thesaurus, and the resultant software was incompatible with faceted arrays. Also, the WR Thesaurus, originally developed around a collection of documents in the educational media field, was incompatible with the terms and documents on the "disadvantaged" that comprised the initial ERIC database. Thus, a precedent was being set for what still remains true for the ERIC *Thesaurus*. That is, the ERIC *Thesaurus* is an "authority list" and not really a theoretically comprehensive "thesaurus", i.e., only those terms are accepted for the *Thesaurus* that are actually used to index documents in the ERIC database.

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[*] Some of this information was borrowed from "The Vocabulary," Chapter VII of Delmer J. Trester's *ERIC -- the First Fifteen Years; A History of the Educational Resources Information Center* (ED-195289).

Choosing the structured "disadvantaged" terms over the WR facets turned out to be the correct path. The American National Standards Institute's Z39 guidelines for thesaurus structure, construction, and use, published in 1974 (revised & updated in 1980 & 1990[**]) and now the standard for information retrieval thesauri in the U.S., was developed primarily from the earlier precedents established by the *TEST Thesaurus* and the ERIC *Thesaurus*.

The Panel on Educational Terminology

Concurrently with the indexing of the "Disadvantaged Collection," a thesaurus advisory group was formed to consult with Central ERIC. This small 6-person group, called the Panel on Educational Terminology (PET), consisted of both educators and information experts from both inside and outside the Federal Government. Early meetings also involved observers from various subject-matter areas. The PET group, under the direction of ERIC Lexicographer James Eller, guided the development of the ERIC *Thesaurus* through its first 8 years (1965-72).

"Rules for *Thesaurus* Preparation"

Concurrently with the structuring of the "disadvantaged" terms, the PET group began preparing a formal set of rules or conventions to govern vocabulary expansion beyond the initial core of terms. PET had decided that the rules and conventions appropriate for the physical sciences and engineering (developed by the Engineers Joint Council and the Department of Defense's Project LEX) were not entirely suitable for the social sciences and for the field of education. As a result, a modified set of rules regarded as appropriate for ERIC began to take shape. First published in October 1966, these rules were entitled "Rules for *Thesaurus* Preparation."

The rules contained instructions on proper Descriptor construction, format, and content. Special emphasis was placed on the convention that Descriptors must represent concepts found in the literature and must be actually used in the ERIC database. Earlier work at Central ERIC had indicated that the expression of educational concepts is frequently not possible by the use of uniterms (single-word terms). The rules indicated that multiword Descriptors should be used when false coordinations are otherwise probable, when single words combined in searching mean something different than intended, and when single-word terms have excessively high postings. The rules were completed in time for use with the initial indexing for the first issue of RIE, published in November 1966. CIJE appeared about 2 years later, in January 1969.

The 1966 "Rules for *Thesaurus* Preparation" represent the foundation of the ERIC vocabulary rules followed today (see Section VIII (Part 1), item D). A second (and last) edition of these rules was published in September 1969 (see ED-033740).

Vocabulary Expansion (Period of Significant Growth)

The emphasis during the early years was on expanding the ERIC vocabulary beyond the initial core list of terms. New Descriptors were added on the basis of their need in indexing the documents going into the system. When an ERIC indexer determined the need for a new Descriptor, he/she would prepare the appropriate justification with authority citations and definitions, and submit such justification to the Facility Lexicographer. (These same basic practices are in effect today.)

The increase of new Descriptors was rapid during the early years of the ERIC system. A plateau was reached in 1971 with about 7,300 terms, including 4,900 postable main terms. The ensuing 8 years through 1979 brought an average of about 100 new terms per year to the *Thesaurus*. Not until 1980 and the implementation of the results of the comprehensive Vocabulary Improvement Project (VIP) was this trend substantially altered.

[**] 1990 draft revision, ANSI/NISO Z39.19-199x, developed by the National Information Standards Organization (NISO), circulated 1/10/90 among NISO voting members for comment.

Thoughts of Backtracking

As the *Thesaurus* continued to grow, it gradually became apparent that some early decisions were not wholly satisfactory. Problems such as nearly synonymous Descriptors, ambiguity among terms, and discrepancies among generic (hierarchical) relationships began to surface.

The first talk of possibly merging nearly synonymous Descriptors occurred in 1969, but the idea was rejected for the time-being because of the great expense thought to be involved.

By the time DIALOG was commercially operational for online computer searching in early 1972, the PET group had decided it was time to shift attention away from *Thesaurus* expansion to an evaluation of the existing *Thesaurus* terminology from the users' point of view. Before any activity could get underway, however, the PET group disbanded, primarily because its chairperson and ERIC's original Lexicographer, Dr. James Eller, left the ERIC system.

Vocabulary Improvement Program

Before the end of 1972, the ERIC Facility submitted a proposal for the establishment of a nationwide Vocabulary Improvement Program. The program got underway in the fall of 1973 with the development of the "Transfer-and-Delete" software system, and the establishment of the Vocabulary Review Group and the *Thesaurus* Advisory Panel.

The new "Transfer-and-Delete" system allowed one transaction to be written that would both delete a term and simultaneously transfer all of its postings to another term. Such a capability permitted the master files for RIE and CIJE to remain compatible with a substantially modified *Thesaurus*. Vocabulary Review Group members were selected so as to achieve a broad base of coordination. Representatives or "vocabulary coordinators" were included from the ERIC Clearinghouses, as well as from various university libraries and State Education Departments having access to the ERIC database and experience in its use. Recommended changes to the *Thesaurus* were accepted from all network staff and external users. Such recommendations were recorded on a Term Change Notice (TCN) Form and distributed to the review group members for their reactions. The *Thesaurus* Advisory Panel (TAP) was set up as a locally (Washington) based group, consisting of membership from Central ERIC, the ERIC Facility, and several other members within and outside the ERIC network. The group's purpose was to replace the disbanded, policy-making PET group and to resolve those relatively few issues of *Thesaurus* change for which a consensus of review group members could not be achieved.

Never designed as a centralized, intensive clean-up effort, the original Vocabulary Improvement Program was effective in meeting its objectives. During the 1973-78 time frame, 50 TCNs were evaluated by the review group, resulting in the deletion and reposting of 87 unwanted Descriptors. In its meetings, the TAP approved several innovations (e.g., two-way hierarchical display, add/entry dates, multiple "Use" references) that ultimately became integral parts of the *Thesaurus*. However, the program was somewhat cumbersome with its complicated paperwork flow and documentation requirements. In April 1976, an ERIC indexing seminar (held in Annapolis, Maryland, as part of that year's National Technical Meeting) helped to solidify the feeling that it would take far too long to accomplish a thorough thesaural clean-up with the existing program. Following up in November 1976, Central ERIC funded a small study project for Jim Houston, the Facility Lexicographer, to investigate ways in which comprehensive vocabulary improvement might be accomplished in a reasonable time frame.

Shifting into a Higher Gear

Three information systems known to have engaged in vocabulary revitalization efforts (NTIS, the Engineering Index, and the Chemical Abstracts Service) were surveyed by the Facility with the hope that their experience would prove useful in planning a new vocabulary effort for ERIC. In fact, however, ERIC proved to be breaking new ground in planning and accomplishing its vocabulary improvement. The survey report concluded that the best people to turn to for real vocabulary revitalization would be the actual users of the ERIC *Thesaurus*, i.e., the indexers in the ERIC Clearinghouses and the searchers within ERIC's community of users. A plan was presented to Central ERIC on how to elicit this participation.

Utilizing this basic groundwork, Central ERIC selected a "Coordinator" to organize a new, more intensive project in which a thorough *Thesaurus* clean-up could be realized in a relatively short period of time. The newly proposed effort was called the Vocabulary Improvement Project or the VIP. Its first Coordinator was Barbara Booth of the ERIC Clearinghouse for Junior Colleges. Central ERIC selected Lynn Barnett, ERIC Clearinghouse on Higher Education, to coordinate the project when Ms. Booth left the ERIC system in mid-1979.

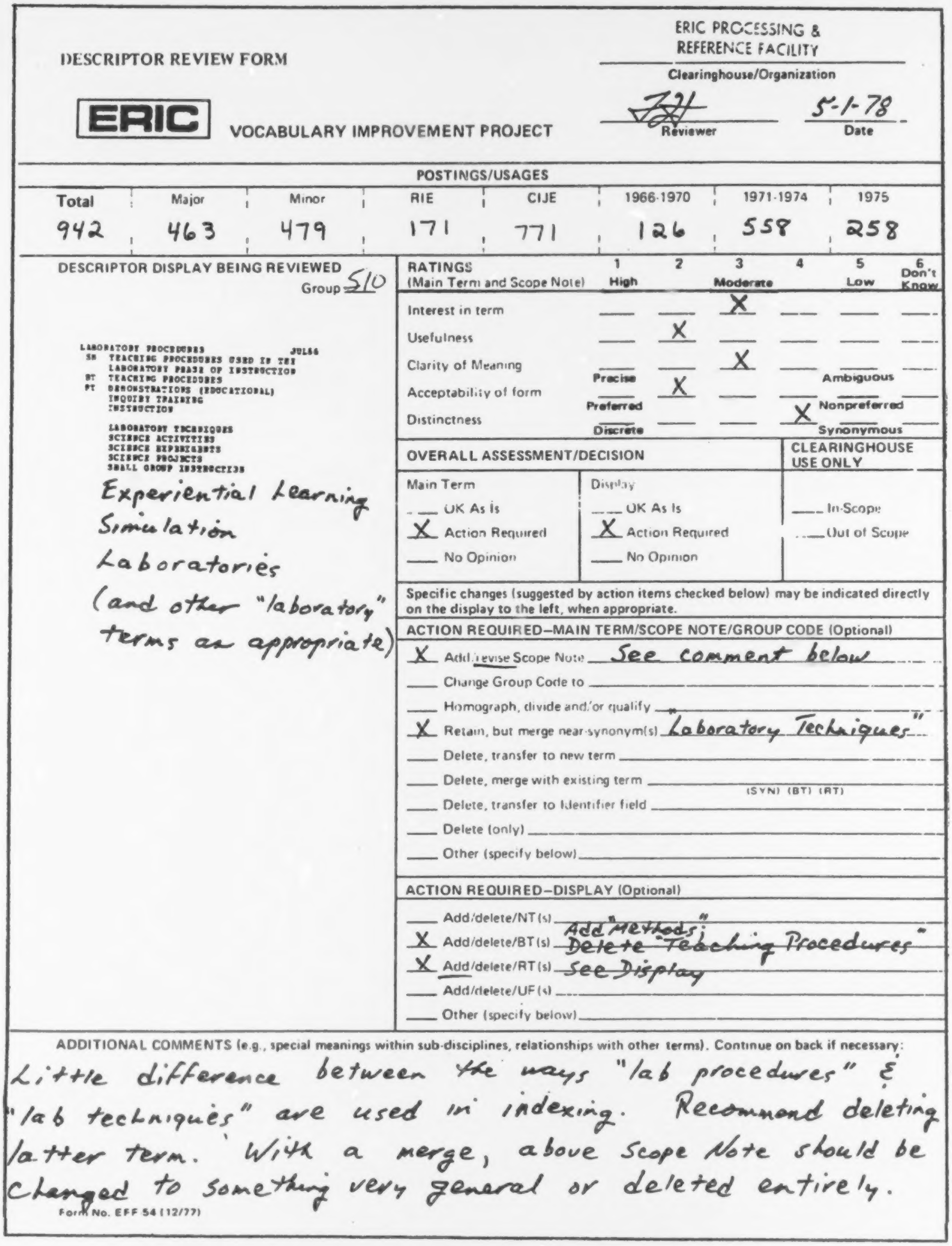
Vocabulary Improvement Project (VIP)

The new VIP was inaugurated in September 1977 with a national meeting of Clearinghouse vocabulary coordinators and selected users involved in the original Vocabulary Review Group. At that meeting, an Executive Committee was selected consisting of the VIP Coordinator, the Central ERIC Monitor, the Facility Lexicographer, and two vocabulary coordinators from the Clearinghouses. This overall coordination meeting was followed quickly by three more vocabulary coordinators' meetings, held in conjunction with regional technical meetings, where the actual procedures of the new project were worked out.

- **Phase I: "*Thesaurus* Review"**

  The first phase of the project was labeled "*Thesaurus* Review." The goal was to permit as many individuals as possible to critically evaluate each *Thesaurus* Descriptor and its accompanying display. A "Descriptor Review Form" was developed by the VIP Executive Committee, and Clearinghouses participated in preparing a form for each Descriptor and its display -- about 5,200 originals. (See **Figure VIII-1-ATT-1-1** for an example of this form complete with a reviewer's comments.) Each Clearinghouse received a complete set of forms from the Facility in March 1978. Sixteen user organizations also received some of the forms (or all of them, in some cases). By August, over 60,000 Descriptor evaluations had been completed, about 10,000 by the external users.

  All forms were returned to the Facility where they were collated into a complete set for each Descriptor. The Executive Committee then sorted the forms again for Clearinghouse assignment (based on "scope of interest"), and the Facility arranged their distribution. Each Clearinghouse and the Facility received approximately 300 Descriptor assignments. Clearinghouses then determined priorities and arranged their schedules in order to complete their assignments. The axiom "usage determines meaning" was the overriding guideline for Phase II.



DESCRIPTOR REVIEW FORM

ERIC VOCABULARY IMPROVEMENT PROJECT

ERIC PROCESSING &
REFERENCE FACILITY
Clearinghouse/Organization

Reviewer

5-1-78
Date

POSTINGS/USAGES

Total	Major	Minor	RIE	CIJE	1966-1970	1971-1974	1975
942	463	479	171	771	126	558	258

DESCRIPTOR DISPLAY BEING REVIEWED
Group 510

```
LABORATORY PROCEDURES                       JUL66
 SN  TEACHING PROCEDURES USED IN THE
     LABORATORY PHASE OF INSTRUCTION
 BT  TEACHING PROCEDURES
 RT  DEMONSTRATIONS (EDUCATIONAL)
     INQUIRY TRAINING
     INSTRUCTION

     LABORATORY TECHNIQUES
     SCIENCE ACTIVITIES
     SCIENCE EXPERIMENTS
     SCIENCE PROJECTS
     SMALL GROUP INSTRUCTION
```

Experiential Learning
Simulation
Laboratories
(and other "laboratory" terms as appropriate)

RATINGS (Main Term and Scope Note)

	1 High	2	3 Moderate	4	5 Low	6 Don't Know
Interest in term			X			
Usefulness		X				
Clarity of Meaning	Precise		X		Ambiguous	
Acceptability of form	Preferred	X			Nonpreferred	
Distinctness	Discrete			X	Synonymous	

OVERALL ASSESSMENT/DECISION

Main Term
☐ OK As Is
☒ Action Required
☐ No Opinion

Display
☐ OK As Is
☒ Action Required
☐ No Opinion

CLEARINGHOUSE USE ONLY
☐ In-Scope
☐ Out of Scope

Specific changes (suggested by action items checked below) may be indicated directly on the display to the left, when appropriate.

ACTION REQUIRED—MAIN TERM/SCOPE NOTE/GROUP CODE (Optional)

☒ Add/revise Scope Note See comment below
☐ Change Group Code to
☐ Homograph, divide and/or qualify
☒ Retain, but merge near-synonym(s) "Laboratory Techniques"
☐ Delete, transfer to new term
☐ Delete, merge with existing term (SYN) (BT) (RT)
☐ Delete, transfer to Identifier field
☐ Delete (only)
☐ Other (specify below)

ACTION REQUIRED—DISPLAY (Optional)

☐ Add/delete/NT(s)
☒ Add/delete/BT(s) Add "Methods"; Delete "Teaching Procedures"
☒ Add/delete/RT(s) See Display
☐ Add/delete/UF(s)
☐ Other (specify below)

ADDITIONAL COMMENTS (e.g., special meanings within sub-disciplines, relationships with other terms). Continue on back if necessary:

Little difference between the ways "lab procedures" & "lab techniques" are used in indexing. Recommend deleting latter term. With a merge, above Scope Note should be changed to something very general or deleted entirely.

Form No. EFF 54 (12/77)

FIGURE VIII-1-ATT-1-1: "DESCRIPTOR REVIEW FORM" OF THE VOCABULARY IMPROVEMENT PROJECT (VIP)

- **Phase II: "Production"**

Phase II or the "Production" phase extended from November 1978 to September 1979, during which time Clearinghouse personnel (using the completed "Descriptor Review Forms") wrote and rewrote scope notes, merged synonymous terms, updated obsolete terminology, and revised cross-references. All suggestions were recorded on a special *Thesaurus* input form (designed by the Executive Committee -- see **Figure VIII-1-ATT-1-2**), sent to and reviewed by the Facility lexicographic staff, then keyed into a special *Thesaurus* file informally called the *"Play Thesaurus"* (PT). Each suggestion in the PT identified the originator by Clearinghouse/Facility prefix and was coded "approved/disapproved" by the Lexicographers. The PT was updated twelve times over a 14-month period. Each issue was distributed to all participants, who could then react to the suggestions of others, or to lexicographic decisions, via a special "Comment" field. Each "Comment" was also identified by Clearinghouse/Facility prefix and arranged chronologically so that a continuing dialog was provided throughout the twelve PT issues. Nearly 11,000 transactions had been entered into the PT file when the last issue was published shortly after New Year's Day 1980. The Executive Committee met during the week of January 14-18, 1980 in Washington, D.C., to close out the PT phase of the VIP. Over 500 terms that had not received final resolution in the PT were reviewed by the Committee, and final dispositions were made.

Nearly 7,000 suggestions from the "production" phase were designated as "approved." These were keyed directly from the PT to the "real" *Thesaurus* file. The working copies of the "new" *Thesaurus* were ready in March 1980 for use in indexing; the published version followed in June 1980. A summary of the major VIP transactions follows:

1,437 Scope Notes Written
512 New Main Terms Added
841 Main Terms Converted to "USE" Terms
123 Terms Invalidated (i.e., kept on the file, but no longer used)
18 Terms Purged
563 New "USE" Terms Added
716 "USE" Terms Deleted

The RIE and CIJE master files and the inverted postings were updated to reflect all of these changes---this involved more than 2 million transactions to individual records in the database. Updated magnetic tapes were sent to the online vendors in September 1980.

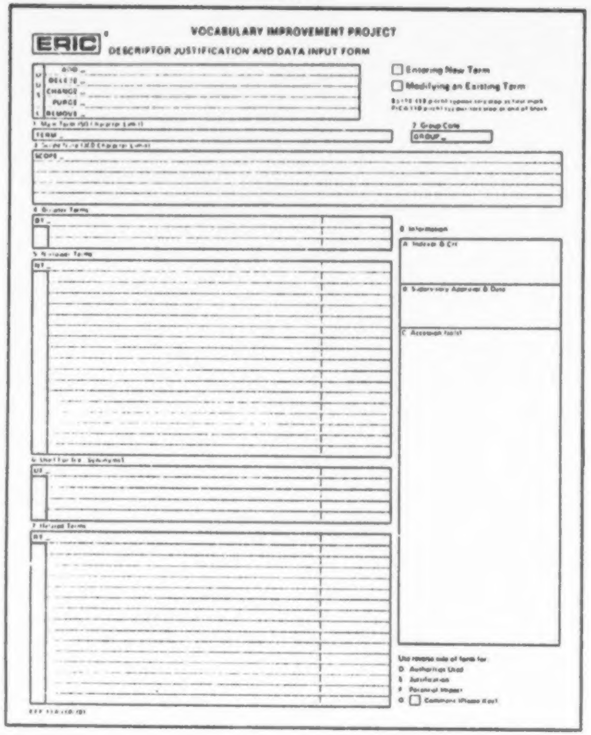
- **The VIP Legacy**

The 1977-80 Vocabulary Improvement Project (VIP) was a major event in the history of ERIC and in the information/library science field. Such an undertaking by a major information system was virtually unprecedented. The ERIC *Thesaurus* was completely revised to reflect contemporary indexing needs, while the integrity of the ERIC database was preserved for the searcher through massive updating, and both were done within a period of 3 years.

-- **Total Network Involvement in *Thesaurus* Development**

The VIP introduced a new methodology for thesaurus development and maintenance activities within a decentralized system. Prior to the VIP, changes to the ERIC *Thesaurus* (particularly with respect to individual terms) were based essentially on negotiations solely between a submitting Clearinghouse and the central lexicographic staff. The VIP, through its interactive *"Play Thesaurus,"* extended the negotiation process to all Clearinghouses.

FRONT



ERIC

VOCABULARY IMPROVEMENT PROJECT

DESCRIPTOR JUSTIFICATION AND DATA INPUT FORM

ADD _
DELETE _
CHANGE _
PURGE _
REMOVE _

☐ Entering New Term
☐ Modifying an Existing Term

TERM _

GROUP _

SCOPE _

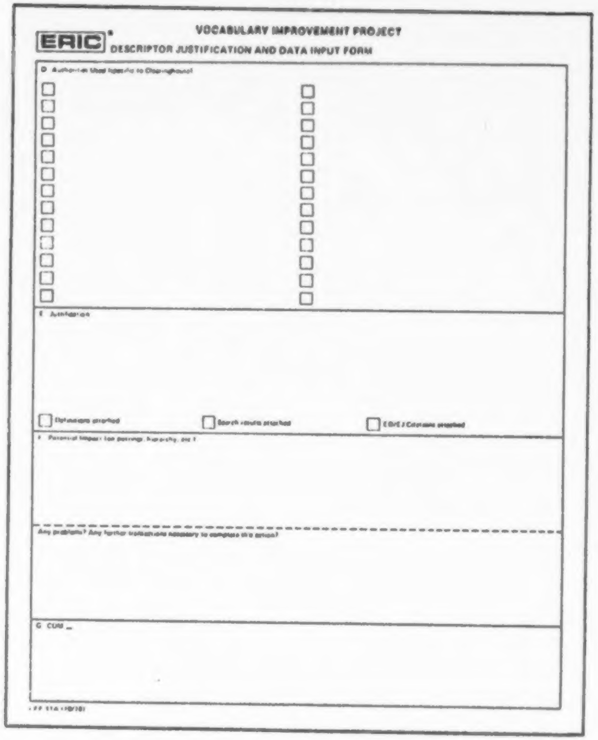
BT _

NT _

UF _

RT _

BACK



ERIC

VOCABULARY IMPROVEMENT PROJECT

DESCRIPTOR JUSTIFICATION AND DATA INPUT FORM

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

G CUM _

FIGURE VIII-1-ATT-1-2: "PLAY THESAURUS" INPUT FORM OF THE VOCABULARY IMPROVEMENT PROJECT (VIP)

In the VIP, decisions negotiated between a submitting Clearinghouse and the Lexicographers were recorded in a "*Play Thesaurus*" (PT) for other Clearinghouses to see. All Clearinghouses could then review these decisions and use the PT for communicating their opinions and other comments. The Lexicographers, conducting additional negotiations as necessary, would then use these remarks in finalizing a term, its Scope Note, and/or display for the "real" *Thesaurus* file.

This system of total participation worked so well that it was retained and continued after the VIP was completed.

"Vocabulary Development Program"

In May 1980, Patricia Coulter (Central ERIC Monitor of the VIP), Lynn Barnett (VIP Coordinator), Jim Houston (Facility Lexicographer), and Carolyn Weller (Identifier Coordinator) met to determine how to use the experience gained during the comprehensive Vocabulary Improvement Project for the future development and control of the ERIC *Thesaurus*. Through their deliberations, a new program was outlined having the overall purposes of increasing efficiency, reducing costs, and more thoroughly involving the Clearinghouses and users in the *Thesaurus* activities of the future. In order to represent a new beginning, the new program was called the "Vocabulary Development Program." With the blessing of Central ERIC, and after a review by Clearinghouse staff members involved in vocabulary work, the new program became operational in December 1980.

The "Vocabulary Development Program" is structured to permit all *Thesaurus* recommendations to be examined by a "Vocabulary Review Group" (VRG) before final dispositions are made. Reconstituted from the earlier VRG (see "Vocabulary Improvement Program"), the present VRG's 29 members include representatives from every Clearinghouse, Central ERIC, ACCESS ERIC, the CIJE Publisher, the Facility, several user organizations, and "International ERIC."[***] The Vocabulary Status Report (VSR), issued at least twice a year, serves as the mechanism for alerting the VRG to proposed changes, for soliciting the membership's comments and recommendations, and for notifying all members of final dispositions.

Lynn Barnett of the ERIC Clearinghouse on Higher Education was the first Chair of the reconstituted Vocabulary Review Group in 1980-81. Anita Colby of the ERIC Clearinghouse for Junior Colleges has served as the VRG Chair from 1982 to the present.

Each ensuing year since 1980 has seen approximately 100 new main terms added to the *Thesaurus* file. The latest 12th (1990) edition of the *Thesaurus* contains approximately 10,000 vocabulary terms, of which approximately 5,600 are main-entry Descriptors and 4,400 are non-indexable Use references and "dead" terms.

Although the new program requires some additional turnaround time to determine dispositions, this appears to be fully justified considering the additional lexicographic perspectives gained across Clearinghouse subject areas and between indexers and users. The functions, work flow, and documentation procedures of the new "Vocabulary Development Program" are discussed in **item B.3** of this section.

[***] "International ERIC" (informally, *InterEd*) includes representatives of the *Australian Education Index*, *British Education Index*, and *Canadian Education Index*, as well as ERIC.

ATTACHMENT #2

Vocabulary Development Form (VDF) Computer Templates

(These two sample computer templates are provided as possible models in addition to the one illustrated in **Figure VIII-1-9** of this section.)

173

TEMPLATE #1

OCT 31 1988

ERIC VOCABULARY DEVELOPMENT

Adding new term

TERM: **INFORMATION SCIENCE EDUCATION**

GROUP:

SCOPE: POSTSECONDARY EDUCATION OR TRAINING OF INFORMATION SCIENTISTS AND OTHER INFORMATION PROFESSIONALS (NOTE: PRIOR TO MONTH YEAR, THIS CONCEPT WAS SOMETIMES INDEXED UNDER "LIBRARY EDUCATION")

UF:

NT: LIBRARY EDUCATION

BT: POSTSECONDARY EDUCATION
PROFESSIONAL EDUCATION

RT:

Betsy Reifsnyder, IR

Supervisory Approval & Date:

B Bm 10/27/88

PERSONAL CONTACTS: None

AUTHORITIES USED

NOTE: X - term(s) considered (as listed in parentheses)
0 - relevant terms not found

Education Authorities

0 *Dictionary of education*, Good, 1973
X *Education Index*

(INFORMATION SCIENCE--TEACHING)

Library/Information Science Authorities

0 *ALA glossary of library and information science*, 1983
0 *Hennepin County Library Cumulative Authority List*, July 1988
0 *Librarians' glossary of terms used in librarianship*, Harrod, 1984
X *Library Literature*

(INFORMATION SCIENCE--TEACHING; INFORMATION SCIENTISTS--EDUCATION)

X *Library of Congress Subject Headings*, 11th ed. or as updated online

(INFORMATION SCIENCE--STUDY AND TEACHING)

IMPACT ON THESAURUS/EXPLANATION OF PROPOSALS

Accompanying change needed in LIBRARY EDUCATION, which is proposed as a NT of INFORMATION SCIENCE EDUCATION. Although LIBRARY EDUCATION was placed solely under POSTSECONDARY EDUCATION, it is proposed that INFORMATION SCIENCE EDUCATION be placed both under POSTSECONDARY EDUCATION and PROFESSIONAL EDUCATION. NOTE: LIBRARY EDUCATION includes the education of professionals and paraprofessionals. The inclusion of LIBRARY EDUCATION in a PROFESSIONAL EDUCATION hierarchy is based on the precedent set by LEGAL EDUCATION (PROFESSIONS), which is placed under PROFESSIONAL EDUCATION and which includes the education of attorneys and paralegals.

IMPACT ON DATABASE

Full-text search attached.

Identifiers to be transferred to the Descriptor:

INFORMATION SCIENCE EDUCATION

Accession numbers to which the new term should be posted, excluding any posted from Identifiers listed above. Accession numbers where the new term should be a major Descriptor are preceded by an asterisk. Note: Records retrieved by the following search strategy/ies but inappropriate for posting are crossed out.

NOTE: Records already assigned the terms LIBRARY SCHOOLS or LIBRARY EDUCATION are not proposed for posting to the new term.

Title NOT Identifier search strategy:

information (w) science (w) education

~~EJ365047~~
~~EJ343039~~
~~EJ351279~~
~~EJ351186~~
~~EJ340289~~
~~EJ340287~~
~~EJ336261~~
~~EJ327053~~
~~EJ318756~~
~~EJ318696~~
~~EJ317247~~
~~EJ314108~~
~~EJ310388~~
~~EJ286995~~
~~EJ268663~~
~~EJ264721~~
~~EJ225663~~
* EJ214707
* EJ199857
~~EJ162648~~
~~EJ136465~~
* EJ009668
~~ED273274~~
~~ED272201~~
~~ED265865~~
~~ED265864~~
~~ED265863~~
~~ED265862~~
~~ED265861~~
~~ED265860~~
~~ED265859~~
~~ED265858~~
~~ED265857~~
~~ED265856~~
~~ED265855~~
~~ED265854~~
~~ED237088~~
~~ED203863~~
~~ED111425~~
~~ED101738~~
~~ED100312~~
* ED059615

Information
Science
Education
4

```
? e information science education

Ref    Items   RT  Index-term
E1      1508   16  INFORMATION  SCIENCE  (STUDY  OF  THE  PROPERTIES  OF
                   INFORMATION, I.E....)
E2         1       INFORMATION SCIENCE ABSTRACTS
E3        51      *INFORMATION SCIENCE EDUCATION
E4         9       INFORMATION SCIENCE RESEARCH
E5       311    6  INFORMATION SCIENTISTS (INDIVIDUALS WHO OBSERVE, MEASURE,
                   AND DESCRI...)
E6         1       INFORMATION SEARCH SERVICES
E7         9       INFORMATION SECTOR
E8         1       INFORMATION SECURITY OVERSIGHT OFFICE
E9      1111   14  INFORMATION SEEKING
E10        2       INFORMATION SELECTION
E11        1       INFORMATION SERVICE EXPEDITER
E12     3001   23  INFORMATION  SERVICES  (THE ACTIVITIES (E.G., INFORMATION
                   SELECTION,...)
```

```
S32  105381  INFORMATION
S33   70042  SCIENCE
S34  425200  EDUCATION  (PROCESS OF IMPARTING OR OBTAINING KNOWLEDGE,...)
S35     135  INFORMATION (W) SCIENCE (W) EDUCATION
S36      60  S35/ED
S37      75  S35/EJ
S38      49  S35/TI
S39      57  S35/AB
S40       0  S35/DE
S41      53  S35/ID
S42      39  S35/ID,MAJ
```

```
S43      14  S35/ID,MIN
S44      49  S35/TI
S45      53  S35/ID
S46      42  S35/TI NOT S35/ID
```

TEMPLATE #2

JUL 31 1989

ERIC VOCABULARY DEVELOPMENT FORM

X Adding New Term

TERM PAYING FOR COLLEGE

GROUP 620

SCOPE NOTE DISCUSSION ABOUT OR METHODS FOR FINANCING AN INDIVIDUAL'S COLLEGE EDUCATION -- NOTE: DO NOT CONFUSE WITH "STUDENT COSTS"

UF

NT

BT

RT EDUCATIONAL FINANCE
STUDENT COSTS
PARENT FINANCIAL CONTRIBUTION
STUDENT FINANCIAL AID
STUDENT LOAN PROGRAMS
FINANCIAL SUPPORT
LOAN REPAYMENT
LOAN DEFAULT (new)

A. **Indexer & CH:** Lynn Barnett/HE

B. **Supervisory Approval & Date:** Lynn Barnett, 7/20/89

C. **Personal Contacts:**

Clearinghouse Consultation -- JC agrees

Other personal contacts/reactions

D. **Authorities Used:**

British Education Thesaurus
Good's Dictionary of Education (3rd)
International Encyclopedia of Higher Education
Medical Subject Headings (1979)
NASA Thesaurus (1985)
Sociological Abstracts
Thesaurus of Psychological Index Terms
UNESCO Thesaurus
A Woman's Thesaurus
X EJ 304 667 - "Paying for College: Plot a Course Now"
X EJ 292 818 - "Paying for College: Beyond Financial Aid"
X ED 260 670 - "How Middle-Income Families Pay for College"
X ED 002 924 - "How People Pay for College"

2

E. Impact on Thesaurus

Indicate potential impact on hierarchies and other terms, particularly overlap with other terms. Qualify homographs.

The descriptor STUDENT COSTS may have been used in the past for the concept represented by PAYING FOR COLLEGE, but STUDENT COSTS implies more. Probably the note in the SN will take care of that. "Paying for college" is really a hot topic in the literature and in the discussions of the student financial aid legislation. We've toyed with other phrases (e.g. COLLEGE COSTS), but they are not specific enough for the concept. Some documents previously indexed with the iden COLLEGE COSTS have been identified below for re-indexing with PAYING FOR COLLEGE.

F. Impact on Database

1. New Term

Attach full-text search, including strategy. Do not limit search by CH, RIE, CIJE, etc.

Search shows:

90	PAYING FOR COLLEGE/ID	
123	COLLEGE COSTS/ID	
21	PAY?(2W)COLLEGE?/TI	
73	PAY?/AB(2W)COLLEGE/AB	[most not relevant]

List identifiers to be transferred to new term.

PAYING FOR COLLEGE

List all accession numbers to which the new term should be posted, excluding identifiers. Use * to note majors.

*EJ304667
*EJ292818
*EJ234481
*EJ172074
*EJ104462
*EJ005450
*ED266704
*ED260673
*ED260670
*ED195182
*ED193980
*ED002924
*ED074887
*ED038124

Also, see attached page for additional accession numbers.

2. Purge

n/a

3

Add PAYING FOR COLLEGE
to highlighted acc. numbers
underscored

10/1/1-72

EJ384160
ED266753
EJ377717
ED266750
EJ376206
ED266741
EJ344128
[illegible]
EJ344125
ED265783
EJ344118
ED264807
EJ341547
ED263843
EJ341546
ED263835
EJ341543
ED262713
EJ341542
ED262712
*EJ339085
ED262693
*EJ336157
ED260673

EJ334537
ED260672
EJ330100
ED260671
*EJ325425
ED260670
EJ323989
ED260608
EJ312153
ED259614
EJ310290
ED259600
EJ308586
ED258516
EJ308562
ED255161
EJ306942
ED255160
EJ306939
ED255159
EJ302998
ED255158
EJ302997
ED254130

EJ302996
EJ302995
EJ302992
EJ299882
EJ296934
EJ281336
EJ281330
EJ279742
EJ278169
EJ278164
EJ276658
EJ271462

EJ265832
ED296636
ED296633
ED286395
ED283499
ED272044
ED272041
ED271038
ED267696
ED267684
ED267681
ED267676

10/1/73-121

ED253186
ED231315
ED253142
ED231314
ED253141
ED231259
ED252150
ED230091
ED252137
ED230085
ED252129
ED228974
ED252115
ED228944
ED251028
ED228939
ED250985
ED224435

ED249914
ED223165
ED249913
ED221146
ED249912
ED221116
ED249904
ED215655
ED249875
ED249852
ED248815
ED248755
ED247862

ED247810
ED247804
ED246820
ED246762
ED246758
ED246756
ED246755
ED246703
ED243392

ED242246
ED242240
ED242231
ED240942
ED238388
ED238308
ED235713
ED234703
ED232586

4

F. Impact on Database

1. New Term

Attach full-text search, including strategy. Do not limit search by CH, RIE, CIJE, etc.

n/a

List identifiers to be transferred to new term.

n/a

List all accession numbers to which the new term should be posted, excluding identifiers. Use * to note majors.

n/a

2. Purge

n/a

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